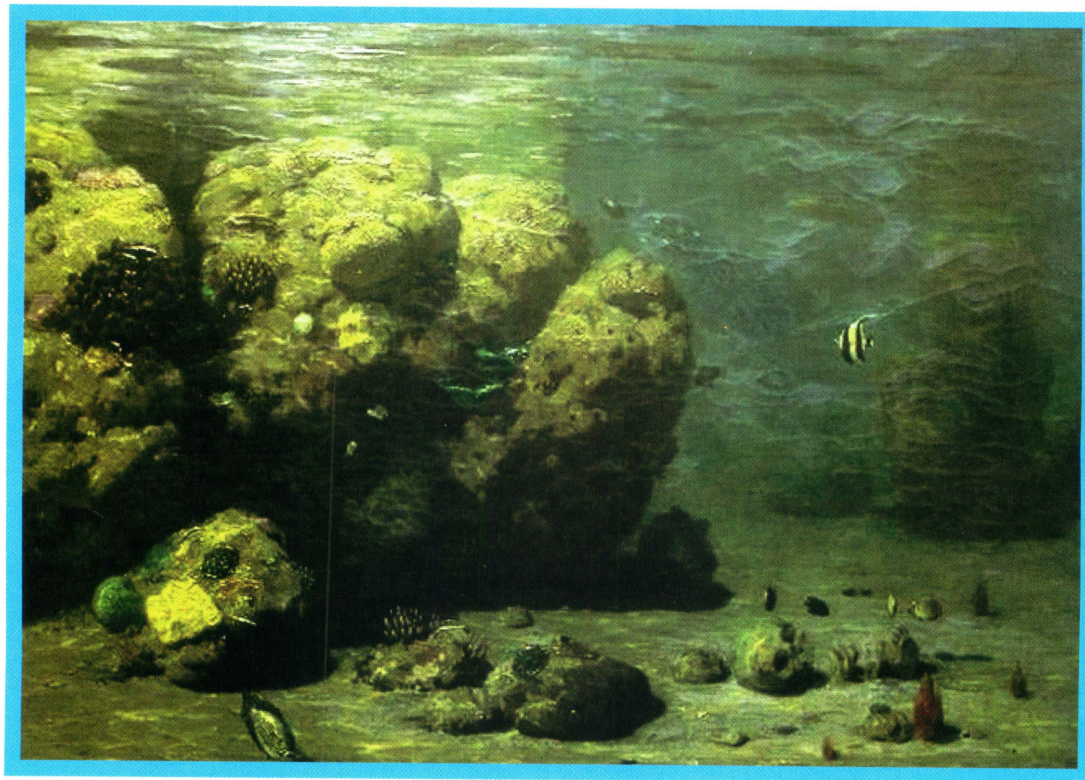


# HISTORICAL DIVER

The Official Publication of The Historical Diving Societies of Australia & S.E. Asia, Canada, Germany, Mexico and the U.S.A.

**Volume 9 Issue 3**

**Summer 2001**



**Color Under The Sea, c 1865**

Eugen von Ransonnet-Ville

- Lester Ritchie - Pearl Harbor Diver 1941 • Murray Black • Making a UK Aqualung •
- 1916 U.S.N. Mark V Helmet • Scott Hydro Pak •

# **HDS-USA Rally 2001**

## **October 13 - 14, 2001, Santa Barbara, California**

Featuring Presentations

Diving equipment author and scuba authority

**Fred Roberts**  
**BASIC SCUBA**

Deep water commercial diver and DIVCON founder

**Murray Black**  
**EARLY DEEP COMMERCIAL DIVES**

HDS television legends

**Bob "Hollywood" Kirby and Greg "Disney" Bryant**  
**The Making of JUNK YARD WARS**

Afternoon Panel. Early Recreational Scuba Diving Equipment in North America

**Dick Anderson, Nick Icorn, Phil Nuytten and Fred Roberts**

A chance to hear the early story and question some of the participants

<b>Friday October 12</b>	<b>Saturday October 13</b>	<b>Sunday October 14</b>
<b>7-10pm</b> No Host HDS reception The Endless Summer Grill Santa Barbara Harbor	<b>HDS - USA Banquet</b> <b>6 pm - 10 pm</b>  Guest Speaker  <b>Phil Nuytten</b>  <b>A Life In The Ocean</b> <b>Deep...and other stories</b>  <b>Santa Barbara Maritime</b> <b>Museum</b> Santa Barbara Harbor Includes first public video screening of the HDS-USA 2000 Awards presen- tations to Dr. Christian Lambertsen and Sid Macken.  \$45 Limited Tickets	<b>10 am</b> Santa Barbara Maritime Museum Classic Diving Exhibition by Cen- tral Coast Working Equipment Group, featuring "Monty Kirby's Sinking Circus," with the Junk Yard Wars dive gear, traditional hand pumps, helmets and more.
<b>Saturday October 13</b>  Class A - 211, Santa Barbara City College Main Campus (Above Marine Tech) <b>9 am - noon</b> , Presentations  <b>Noon - 2pm</b> , BBQ lunch, Exhib- its, Chamber runs, Swap meet  <b>2 pm - 4 pm</b> Panel discussion  \$25 includes BBQ lunch. Limited tickets		

For tickets contact HDSUSA at 805-692-0072 or send your check or money order to  
HDSUSA, 340 S Kellogg Ave Ste E, Goleta CA, 93117. Visa, MC or Amex cards accepted.  
Tickets for the presentations and lunch are \$25 and for the banquet \$45, making a total of \$70.

**HDS Members only advance order both tickets for \$65**

**All tickets are limited and on a first come first sold basis.**

For hotel accommodations contact 800-422-7180



## HISTORICAL DIVING SOCIETY U.S.A.

A PUBLIC BENEFIT NONPROFIT CORPORATION  
340 S KELLOGG AVE STE E, GOLETA CA 93117, U.S.A.

PHONE: 805-692-0072 FAX: 805-692-0042 e-mail: HD@HDS.ORG or HTTP://www.hds.org/



### ADVISORY BOARD

Bob Barth	Prof. Hans Hass
Dr. Peter B. Bennett	Lotte Hass
Dick Bonin	Dr. Christian J. Lambertsen
Ernest H. Brooks II	Dick Long
Jim Caldwell	J. Thomas Millington, M.D.
Scott Carpenter	Bob & Bill Meistrell
Jean-Michel Cousteau	Bev Morgan
E.R. Cross (1913-2000)	Phil Nuytten
Henri Delauze	Sir John Rawlins
Dr. Sylvia Earle	Andreas B. Rechnitzer, Ph.D.
André Galerne	Robert Sténuit
Lad Handelman	Les Ashton Smith

### SOCIETY BOARD OF DIRECTORS

*Chairman:* Lee Selisky    *President:* Leslie Leaney  
*Secretary:* James Cunningham    *Treasurer:* Bob Wohlers  
*Directors:*  
Bonnie Cardone, Gary Maines, Kent Rockwell

### FOUNDING BENEFACTORS

Art Bachrach, Ph.D.	Leslie Leaney
Antonio Badias-Alonso	Robert & Caroline Leaney
Roger Bankston	Andy Lentz
Ernie Brooks II	A.L. "Scrap" Lundy
Ken & Susan Brown	Jim Mabry
Wayne Brusate	Krov Menuhin
P.K. Chandran	Andrew R. Mrozinski
Steve Chaparro	Dr. Phil Nuytten
John Rice Churchill	Ronald E. Owen
Raymond I. Dawson, Jr.	Torrance Parker
Jesse & Brenda Dean	Alese & Morton Pechter
Diving Systems International	Bob Ratcliffe
Skip & Jane Dunham	Lee Selisky
Howard & Michele Hall	Robert D. Shepard
Randy Hanks	Don Slack
Phil Hawes	Edward Lee Spence
Fred Johnson	Rod Stanley
Buck Kamphausen	Hironao Tanaka
Ron & Christl Karlsson	Charles S. Thornton
Woody Kenney	Dr. James Vorosmarti
Bob & Claudia Kirby	Gene & Elizabeth Webb
	Captain Ed White

### — International Affiliates —

The Institute of Diving, USA  
The Association of Diving Contractors International, USA  
The Musée du Scaphandre, France  
The Academy of Underwater Arts and Science, USA  
The Historical Diving Society, S.E. Asia Pacific  
The Historical Diving Society, Italia  
The Historical Diving Society, Canada

The Historical Diving Society, Germany  
The Historical Diving Society, Mexico  
The Historical Diving Society, South Africa  
Musée Frédéric Dumas, France  
Scaph '50, France  
Undersea Heritage and Exploration Society, USA  
The Historical Diving Society, UK

### THE BOARD OF DIRECTORS WOULD LIKE TO ACKNOWLEDGE THE CONTINUED SUPPORT OF THE FOLLOWING:

#### Founding Corporations

BEST PUBLISHING  
D.E.S.C.O.  
DIVING SYSTEMS INTERNATIONAL  
MARINE SURPLUS SUPPLY, UK  
OCEANEERING INTERNATIONAL, WEST COAST  
SANTA BARBARA CITY COLLEGE

#### Sponsors

AQUA LUNG  
BODY GLOVE  
D.E.S.C.O.  
DIVERS ALERT NETWORK (DAN)  
DIVE COMMERCIAL INTERNATIONAL, INC.  
DIVING SYSTEMS INTERNATIONAL  
FORCE FINS  
MARES  
OCEANIC  
OCEAN FUTURES  
PROTECO SUB  
SEA PEARLS  
SCUBALUX  
SCUBA TECHNOLOGIES, INC.  
SUB SALVE, INC.  
MAR-VEL  
MORSE DIVING

#### Corporate Members

OCEANEERING INTERNATIONAL, WEST COAST

DIVING SYSTEMS INTERNATIONAL  
DRS MARINE, INC.  
W.J. CASTLE P.E. & ASSOC.P.C.  
MARINE SURPLUS SUPPLY, UK  
BEST PUBLISHING  
DECA DIVING  
MARION HILL ASSOCIATES INC.  
MAR-VEL UNDERWATER EQUIPMENT INC.  
MCGRIFF SEIBELS & WILLIAMS OF TEXAS, INC.  
MADCON CORPORATION  
AMERICAN UNDERWATER CONTRACTORS INC.  
JANE PETRO MD  
PACIFIC COMMERCIAL DIVING SUPPLY PTY. LTD., AUSTRALIA  
BAMBOO REEF ENTERPRISES INC.  
DRYDEN DIVING CO. INC.  
T N J MARINE INC.  
NORTH COAST DIVERS INC.  
AQUATIC TECHNOLOGIES  
CROFTON DIVING CORPORATION  
MARITIME AUCTIONS  
W. L. DOFFING COMPANY  
NAUTILUS SERMARES, CHILE  
SCUBA TECHNOLOGIES, INC.  
ADVENTURES IN DIVING  
OCEANIC  
BOB EVANS DESIGNS, INC.  
COLLEGE OF OCEANEERING  
JULZ SEA OF TALENT

IMMERSED  
GIANT PANDA MANAGEMENT  
DEMA  
RESOLYN PRODUCTS  
DIVER'S MARKET, INC.  
AMRON INTERNATIONAL  
R. J. STECKEL

#### Dive Stores

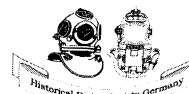
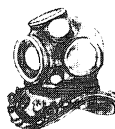
SWIMKING DIVE SHOP  
GREAT LAKES SCUBA  
SUSQUEHANNA SCUBA CENTER INC.  
TREASURE DIVERS OF MIAMI  
LONE STAR SCUBA

#### Libraries

TORRANCE CIVIC LIBRARY  
RANCHO PALOS VERDES CENTER LIBRARY  
REDONDO BEACH PUBLIC LIBRARY  
LONG BEACH PUBLIC LIBRARY  
SAN PEDRO PUBLIC LIBRARY  
MENDOCINO COUNTY LIBRARY FT BRAGG

#### Institutions

DIVERS INSTITUTE OF TECHNOLOGY INC.  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
WOODS HOLE OCEANOGRAPHIC INSTITUTION  
THE SCIAA RESEARCH LIBRARY USC  
BROOKS INSTITUTE OF PHOTOGRAPHY



# HISTORICAL DIVER

Volume 9 Issue 3

ISSN 1094-4516

Summer 2001

## HISTORICAL DIVER MAGAZINE

ISSN 1094-4516

THE OFFICIAL PUBLICATION OF

**THE HISTORICAL DIVING SOCIETY U.S.A.  
HISTORICAL DIVING SOCIETY S.E. ASIA PACIFIC**

**HISTORICAL DIVING SOCIETY CANADA  
HISTORICAL DIVING SOCIETY GERMANY  
HISTORICAL DIVING SOCIETY MEXICO**

### HISTORICAL DIVER MAGAZINE EDITORS

Leslie Leaney, *Editor*  
Andy Lentz, *Production Editor*  
Steve Barsky, *Copy Editor*  
Julie Simpson, *Assistant Copy Editor*  
Leslie G. Jacobs, *Columnist*

### INTERNATIONAL SOCIETY EDITORS

#### HDS USA

Leslie Leaney

#### HDS S. E. ASIA PACIFIC

Peter Fields and Bob Ramsay

#### HDS CANADA

Virginia Nuytten and Phil Nuytten

#### HDS GERMANY

Michael Jung and Thomas Kleeman

#### HDS MEXICO

Manuel Lazcano and Camila Villegas

### HISTORICAL DIVER

(ISSN 1094-4516) is published four times a year by the Historical Diving Society USA, a Non-Profit Corporation, 340 S Kellogg Ave Ste E, Goleta CA, 93117, USA. ©2001 Historical Diving Society USA. All Rights Reserved. Tel. 805-692-0072 Fax 805-692-0042.

**HISTORICAL DIVER** is compiled by Leslie Leaney and Andy Lentz. The content is affected by various elements. The Society only guarantees that each issue will contain no fewer than 24 pages. **ADVERTISING INQUIRIES** should be directed to:

Advertising, Historical Diver, 340 S Kellogg Ave Ste E, Goleta CA, 93117, USA. Tel. 805-692-0072 Fax 805-692-0042

**CONTRIBUTIONS:** WE WELCOME CONTRIBUTIONS ON ANY HISTORICAL DIVING SUBJECT. Submissions and contributions on floppy disk are preferred (3.5" Windows/DOS text format or Apple Macintosh formats). Please send a typed hard copy in addition to any disk. Typed manuscripts are also welcome. Illustrations accompanying text are appreciated. Submissions should be sent to: Editor, Historical Diver, 340 S Kellogg Ave Ste E, Goleta CA, 93117, USA. If you have access to e-mail, contributions can be sent to HD@hds.org.

**THE OPINIONS AND VIEWS EXPRESSED** are those of the respective authors and are not necessarily the opinions and views of the Historical Diving Society USA.

### DISCLAIMER

Diving is a potentially hazardous practice and if practiced incorrectly or with incomplete planning and procedures can expose a person to considerable risks including serious injury or death. It requires specialized training, equipment and experience. HISTORICAL DIVER is not intended as a substitute for the above or for the diver to abandon common sense in pursuit of diving activities beyond his or her abilities. HISTORICAL DIVER is intended as a source of information on various aspects of diving, not as a substitute for proper training and experience. For training in diving, contact a national certification agency. The reader is advised that all the elements of hazard and risk associated with diving cannot be brought out within the scope of this text. The individuals, companies and organizations presented in HISTORICAL DIVER are not liable for damage or injury including death which may result from any diving activities, with respect to information contained herein.

## PAGE

## CONTENT

5	Editorial
6	Advisory Board Members. Bob Barth, Jim Caldwell, Dr. Christian Lambertsen
8	In the Mail
10	News
11	HDS-USA
13	HDS South East Asia & Pacific
15	HDS Canada
17	HDS Germany
19	HDS Mexico
21	HDS Russia
22	Lester Ritchie - Pearl Harbor Diver by Dorothy Barstad
28	The DIY Diver. Making a (UK) Aqualung by E.T. Fearon
30	Voices From the Deep: Murray Black part II, by Leslie G. Jacobs
35	Heavy Gear Workshop by Leslie G. Jacobs
36	Helmets of the Deep: Early Morse Mark V by Ray Mathieson
38	Scuba Workshop: Scott Hydro-Pak by Kent Rockwell
40	With Sketchbook and Diving Bell: Eugene von Ransonnet-Villez by Stefanie Kruspel and Andreas Hantschk
44	The Wreck of the Hamilla Mitchell by Bryan F. Dillon
46	Auction Report
48	Classic Diving Equipment Groups
51	The E.R. Cross Files 1939 Parachute Jumper Wears Ariel "Diving" Suit
52	HDS-USA Book Review: Neutral Bouyancy reviewed by Leslie Leaney
54	HDS-USA Book Review: Bitter Sea reviewed by Torrance Parker
55	Wooden Diver Dan, by James Cosgro
56	Ye Olde Master Diver's Locker Modified Mk - 6 UBA by Tracy Robinette
57	In Memory Glen D. (Tonga) Stainbrook Col. William R. "Randy" Furr
58	Classifieds

**On The Cover:** An underwater oil painting by Eugen von Ransonnet-Villez. The fascinating story of this underwater artist was researched by Stefanie Kruspel and Andreas Hantschk.



As many of you know, Historical Diver prides itself on being the vehicle that often delivers articles covering diving history that have never before been published in English. Sometimes the history presented is all but unknown outside of certain small groups. In this issue we are very pleased to be able to publish research by Stefanie Kruspel and Andreas Hantschk into the diving activities of Eugen von Ransonnet-Ville, possibly the first artist to accurately record the brilliant colors of the shallow tropical reef.

I was initially introduced to his work by Bernd Loetsch in 1998, when Peter Jackson, James Forte and I were invited to Vienna by Hans Hass, who arranged an introduction to Bernd. Bernd is the Director General of the Museum of Natural History in Vienna, which houses some of Ransonnet's art, and we were shown prints of paintings he had completed underwater, in an open bottom diving bell, around Ceylon (now Sri-Lanka) during the 1860s. The wider world of divers outside HDS will also learn of Ransonnet's work through his inclusion in Tim Ecott's excellent diving history book, *Neutral Buoyancy*, which is reviewed in this issue. It is our hope that more information will be forthcoming about this unique European underwater artist.

As the 60th anniversary of the Japanese attack on Pearl Harbor approaches, many senior USN divers will recall that dark day. Earlier this year Dorothy Barstad submitted a story on the experiences of a young civilian worker who survived the initial attack and ended up as a diver in the gruesome aftermath. The story of Lester Ritchie is not one we will soon forget, and as Lester prepares to return to "Pearl" in December this year to handle some unfinished business, we are proud to be able to present his story to you.

Also in this issue we complete the adventurous saga of Murray Black, whose diving exploits generated a lot of interest, and even a letter from an old rival. On October 13, Murray will continue his saga when he returns to the city where his career took off, as one of the speakers at the HDS-USA 2001 Rally. The Rally promises to be another special event and I hope to see you there.

Leslie Leaney  
Editor

Proudly supporting the Historical Diving Society



OUR FOUNDER & INSPIRATION  
Captain Jacques Yves Cousteau

**AQUA LUNG**  
FIRST TO DIVE

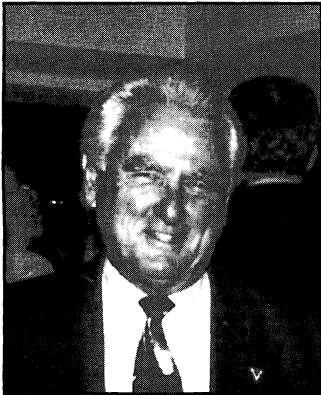


## BOB BARTH

Bob is one of the central figures in the U.S. Navy's experiments into saturation diving and underwater living. From his experience with Project Genesis, Bob Barth was a part of every one of the following SEALAB experiments. In Bob's book *Sea Dwellers*, his fellow aquanaut Scott Carpenter calls him "the undisputed Dean of the saturated diver. He was in the business before anyone ever knew it was a business. Name any event or feat in the world of saturation diving and Bob Barth has been there and done that."

Working with Commander George Bond, Bob was always the guy "on the other end of the hose." The publication of his book allowed many divers to learn of Bob's career, and the important experiments that he was a part of. As Howie Doyle noted, Bob was "a self-professed grunt and guinea pig who willingly gave his blood, sweat, tears, the prime years of his life, and even his heart and soul, to the U.S. Navy's Genesis and SEALAB programs in order to experience what most men can only dream of - life on the bottom of the ocean. Under Bond's leadership, SEALAB provided a wealth of physiological data and proved the viability of saturation diving. It handed the commercial diving community its most important tool in the exploitation of the offshore oil and gas market."

Although Bob is now retired from the U.S. Navy he remains involved with their diving operations in Panama City, Florida. Operating as a self described "diving dinosaur" from a small office at NEDU (sometimes known as "the Barthasaurus cave") his decades of diving experience are a unique resource to the younger generations of Navy divers there.



## JIM CALDWELL

Jim's involvement with diving started with his 1943 enlistment in the U.S. Navy. Once he had completed diving training he served in the South Pacific and received additional training at the submarine base at Pearl Harbor. He remained on duty in the Pacific for Operation Crossroads and continued diving duty for the Able and Baker atomic bomb tests.

After his discharge in November 1947 he entered the commercial diving field in the north eastern United States. Jim formed a diving unit attached to Lakehurst Naval Air Station, recovering various aircraft including a ZPG 3W airship from the Atlantic Ocean. He later formed Caldwell Diving, Ocean County Diving, and Cable Ventures, supplying underwater services for salvage, pipeline, construction and cable installations. He specialized in the installation and burial of power and communication cables around the globe. Using his in-house designed and built underwater cable plow, his companies successfully buried cables in depths from three feet to 45 feet below the sub-surface. Clients included AT&T and Bell Atlantic, and Jim's company worked on both coasts, installing 13,000 feet of fiber optic cable under the San Francisco Bay across to Oakland. To support his expanding operations Jim acquired a small fleet of vessels. In 1998 he sold his company and the land it was built on, including 3,000 feet of waterfront, to General Dynamics.

During his lengthy and distinguished career Jim has kept a close professional relationship with the Association of Diving Contractors International, serving on their Board of Directors. He also maintains strong ties with *the Institute of Diving* in Panama City, of which he is a past President.

## DR. CHRISTIAN J. LAMBERTSEN

Dr. Lambertsen is generally acknowledged as the “Father of U.S. Combat Swimming,” and is the holder of several diving related patents. He is the founder and co-founder of notable diving and medical organizations and the recipient of numerous civilian, military and government awards.

In 1940 Dr. Lambertsen presented the concept of a closed circuit diving apparatus to the U.S. Navy for use in military operations. He saw a potential operational requirement for teams of underwater assault swimmers. The rebreather unit he developed was called the “Lambertsen Lung” and later the “Lambertsen Amphibious Respiratory Unit” (LARU).

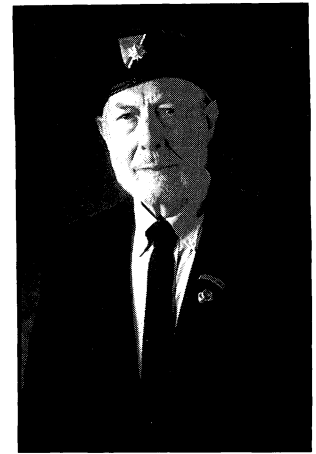
The Navy never acted on Dr. Lambertsen’s concept and instructors at the Naval Combat Demolition School in Fort Pierce, Florida, also rejected the use of closed-circuit apparatus. During this period of WWII the Italian navy had developed an effective offensive capability using closed-circuit apparatus against the British. The British soon entered the arena to combat the Italian success, while America stood idle.

Still convinced of the soundness of his proposals, Dr. Lambertsen approached the Office of Strategic Services (O.S.S.) whose leadership had a much better understanding of his concept’s potential. With Dr. Lambertsen’s assistance the Operational Swimmers Groups were organized as a branch of the OSS Maritime Unit. This unit became America’s first group of combat swimmers and the origins of many of the tactics of the later Underwater Demolition Teams (U.D.T.) and SEALs can be traced directly back to this group.

In 1952 Dr. Lambertsen and Walter A. Hahn co-authored the book *On Using Self-Contained Underwater Breathing Apparatus*, and from this are currently credited in *The Oxford English Dictionary* with introducing the acronym SCUBA (for Self-Contained Underwater Breathing Apparatus) into the English Language

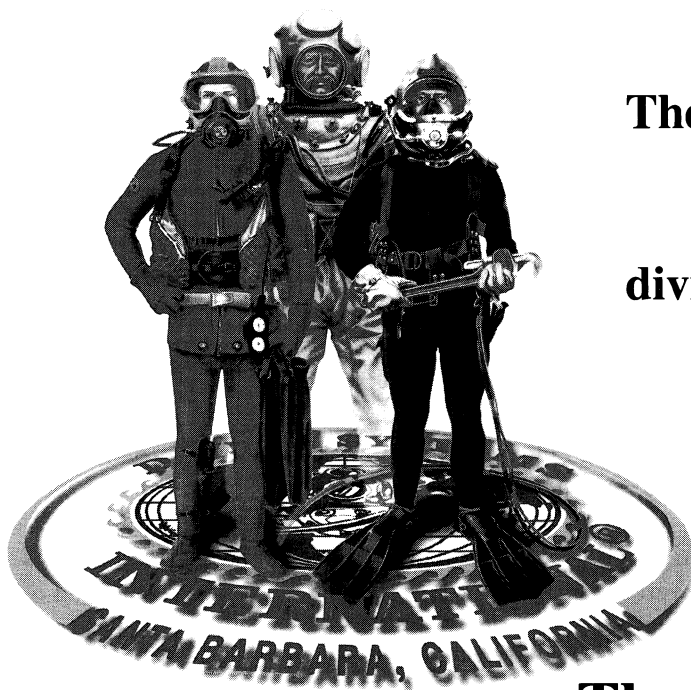
Dr. Lambertsen is the recipient of the year 2000 Historical Diver Magazine Pioneer Award, and we are honored to have him join our Advisory Board.

A fuller detailing of his career can be found in Historical Diver Vol. 8, issue 4, page 5, and in the Dive Industry Awards Ceremony 2001 video.



---

## DIVING SYSTEMS INTERNATIONAL



[www.DivingSystems.com](http://www.DivingSystems.com)

The world’s leading manufacturer  
of

diving helmets and full face masks

and

a

proud founding member

of

**The Historical Diving Society**



## In The Mail

*Some mail may be edited.*

**Content**, from Vol. 9 issue 2.

After reading Robert N. Reaume's letter in the Spring, 2001 issue of *Historical Diver*, I felt compelled to respond. The fact that Mr. Reaume is considering canceling his membership in HDS-USA based on the premise that most issues of *Historical Diver* "are of dismal content" is absolutely beyond my comprehension.

I publish *UnderWater Magazine* for the Association of Diving Contractors International. Our staff of seven full time employees publishes six issues a year that total somewhere in the neighborhood of 700 pages. My own publishing experience compels me to recognize the excellent quality of content and layout created by the staff of *Historical Diver*, two part-time employees who generate in excess of 200 pages per year of important archival information.

The passion of the HDS-USA staff and contributors to *Historical Diver* manifests itself in every issue in the form of a very readable, very informative, and often groundbreaking magazine that will be an important resource to diving historians centuries from now. The HDS Board of Directors has no apologies to make for *Historical Diver*. There is a point to be made that preservation of diving history is a responsibility that we all share.

I'm not attacking Mr. Reaume. He has some very good suggestions for editorial development, as well as an emotional stake in specific areas of diving's storied past. If he can't invest his own time in researching and writing on the subjects that interest him, I hope he will at least continue to invest \$35.00 a year to help assure diving's place in the annals of history, as I certainly take him at his word when he says he cares what happens to HDS.

One more thing; E.R. Cross's contributions to preservation of the history of diving are surpassed only by his contributions toward creating that history. He was a gentleman and a pioneer. In my opinion the pity is that upon his passing it was not practical to devote the entire issue to his life and contributions.

Howie Doyle,  
Publisher  
UnderWater Magazine

I appreciated the Board's response to Mr. Reaume's letter. If *Historical Diver* magazine and the HDS-USA catered solely to the helmet collector, I'm sure the magazine and HDS membership would be meager by today's high standards. I also doubt that the HDS-USA would have the impact on international diving history that it does. Thank you for your efforts on behalf of diving historians of all interests.

Sid Macken  
Amity, Oregon

Our group, the California Classic Equipment Divers, was started to represent a variety of classic equipment, whether it be hard hat, scuba or rebreather. The spark that ignited our interest was the formation of the Historical Diving Society, USA in 1992 by Leslie Leaney and Skip Dunham. Until that time there was no forum to exchange ideas, equipment information and diving history. Best of all has been the forming of friendships across America and around the world with those of like interest. *For this*, we are all in the debt of Leslie, Skip and Andy Lentz.

Another advantage has been being in contact with such men as Torrance Parker, Bob Kirby, Skip Dunham, Bob Christensen, Scrap Lundy, Don Barthelmess, Leslie Leaney, John Durham, Ed White and Ace Parnel, just to name a few. These men have all freely shared their knowledge so that we might preserve our diving history, dive safely and enjoy the camaraderie and friendships we have formed along the way.

I grew up in Wilmington in the '50s and had the pleasure of knowing E.R. Cross. I was able to renew that friendship in 1992 when I became a Charter Member of the HDS after learning of its formation from Mr. Cross. His influence will be with us for many years to come. Maybe he wasn't a "diety," but I thought he came mighty close. I was proud to call him "friend."

My compliments to both Leslie Leaney and Andy Lentz on the production of a fine publication. And, what is my membership in HDS worth? How about "priceless."

Charles E. Orr  
California Classic Equipment Divers

### From Hans and Lotte Hass.

I am writing to let you know that our mutual friend, Michael Jung, has founded a new "Hans Hass Institut" for Submarine Forschung und Tauchtechnik, in Dusseldorf, which is a continuation, so to speak, of my old institute at Liechtenstein. I am handing over to Michael all items of my diving career, including photos and films.

In Vienna there is a similar procedure. The Philosopher Prof. Oeser has founded an international "Hans Hass Institut" for Energon Research, and I am handing over to them all items of my efforts in energon research. This is an institute of the Vienna University which is closely linked to the Karl Popper Institut, which cares for his legacy. Our institutes reside side-by-side with a mutual secretary.

Recently Lotte and I were invited to Munich for a Festival of documentary films, where four of our early films were shown. After Munich we went to an art museum in Zurich for the opening of an exposition about underwater aesthetics. At the present time I am busy digitalizing my film "Red Sea Adventure." We had the great luck to find an almost new copy of this old film in the official German archive in Berlin. They had inherited this print from East



Germany. So, you see that we are able to get around and look forward to seeing many of our American friends at the Jackson Hole Film Festival in Wyoming in September.

Professor Hans Hass and Lotte Hass  
Vienna, Austria.

Editor. As noted in the last issue, Professor Hass will be receiving the Life Time Achievement Award from the Jackson Hole Wild Life Film Festival. For information go to [www.jhfestival.org](http://www.jhfestival.org)

### Murry Black

In the last issue of *Historical Diver* I was pleased to read the interview with Murray Black. When I was starting Comex in 1961, Murray was already very active in Libya, doing acrobatic deep dives on a surface support technology. I do not claim to be better than Murray, but at the beginning of our company, some of the Comex divers (including myself) were also diving with air down to 90 meters and even sometimes a bit deeper! But we were all fools then!

Henri G. Delauze  
Marseilles, France

Editor. Mr. Delauze's company was a major successful European rival to the early North American oil field diving companies like Associated Divers, Cal-Dive, Gen-

eral Offshore Divers and Oceaneering. He is a distinguished member of the HDS-USA Advisory Board, and an overview of a small part of his career can be found in *HDM* Vol. 8, issue 1, page 5



# NAUTIEK

STANDARD DIVING  
EQUIPMENT

Van Polanenpark 182  
2241 R W Wassenaar

TEL: 011 31 70 51 147 40  
FAX: 011 31 70 51 783 96

[www.nautiekdiving.nl](http://www.nautiekdiving.nl)



# Mar-Vel

America's Oldest Diving Supply Company

Supplying the World Since 1946



## 50 Years

## of Excellence

7100 Airport Highway  
Pennsauken, NJ.

Tel: 856-488-4499  
Fax: 856-488-4343

[www.mar-vel.com](http://www.mar-vel.com)

**Cousteau Keynote speaker at Gales of November.** Jean-Michel Cousteau will be the keynote speaker at The Lake Superior Marine Museum Association's 14th Annual Shipwreck and Diving Program. Known as the "Gales of November," the program will start at 9am on Saturday November 10, 2001 at the Duluth Entertainment & Convention Center, Duluth, Minnesota. The day's programs will showcase more than a dozen regional speakers on shipwrecks, underwater archeology, Great Lake disasters and more. There will be exhibits and demonstrations by preservation societies, dive shops, area artists etc. Jean-Michel's address will be delivered after the evening banquet and will feature highlights of his fathers trip to the Great Lakes nearly 20 years ago. For more information phone 218-727-2497 or log on to [www.LSMMA.com](http://www.LSMMA.com)

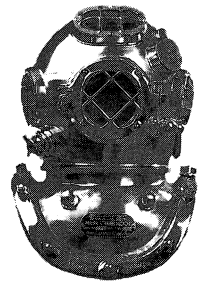
**Vintage Scuba etc.** This year's HDS-USA Rally will feature an exhibit of early vintage scuba equipment. Curated by Kent "Rocky" Rockwell, the exhibit will feature rare items from various private collections, including a partial 1935 La Prieur unit, a 1947 Cousteau-Gagnan rue Cognac two-hose regulator, a 1949 E.R. Cross Sport Diver and an early DESCO Air Master two-hose regulator. Past rallies have featured some of the rarest items of diving equipment. These unique items are usually only available for public viewing at this event, and this may be the only chance of seeing them outside of their respective collections. Admittance to the exhibit is included with your Rally ticket. If you wish to display an early scuba item or require more information, please contact Rocky at 909-734-7523 or [KrSeaHunt@aol.com](mailto:KrSeaHunt@aol.com)

**Zale Parry presentation.** Pioneer female diver, and ardent HDS supporter, Zale Parry, will be the special guest presenter at a meeting hosted by the Adventurer's Club and the California Wreck Divers. Zale will bring along a large dive bag full of stories, slides and videos to the evenings program. The event will be held at The Adventurers Club at 2433 N. Broadway, Los Angeles, California, on October 25, 2001. There is no charge for the presentation and everyone is invited. For complete details, including reservations, call 323-223-3948, or go to [www.cawreckdivers.org](http://www.cawreckdivers.org) or [www.adventurersclub.org](http://www.adventurersclub.org)

**HDS-UK hosts HDS-USA at Birmingham Dive show.** Following the success of the HDS International booth at DEMA 2001, the HDS-USA will be the guests of the HDS in U.K. at this years Dive Show in Birmingham, England, held on October 13 and 14. HDS-USA Chariman Lee Selisky and U.K. representative Peter Jackson will be available to meet members at the HDS booth during Saturday and Sunday.

### Want to Raise Funds?

The Society is offering a fund raising opportunity to fellow diving related non-profit organizations. Participation in the 2001 Raffle is open to non-profit diving groups by way of ticket sales. For each ticket sold, a participating organization gets to keep 50% of the ticket price. The remaining 50% and the ticket stub are returned to the HDS-USA. Details of the raffle are on page 14 and at [www.hds.org](http://www.hds.org). If your group would like to take advantage of this opportunity contact the HDS-USA office at 805-692-0072.



**Mares in New York.** In our haste to complete the previous issue we omitted to acknowledge Mares, who were the sponsors of the HDS/Beneath the Sea Museum of Diving History. The support of Betsy Royal and her staff enabled Bob Rusnak to set up an impressive display of antique equipment that was a big hit with the attendees of the New York show. We could not have done it without Mares and our sincere thanks to them for making it happen.

**Wanted. Hans Hass.** Historical Diver's German editor, Michael Jung, is seeking several books to expand the Hans Hass Institute archives. (See HDM Vol 9, issue 1, page 16, or [www.hist-net.de](http://www.hist-net.de)) During the latter part of the last century books written by Hans were translated into Russian and Japanese. Hans and his publishers never granted licenses for publication, but unauthorized versions of the books were published in both countries. Michael is seeking to purchase any copies of these books to complete the Institute's archives. Books by Hans Hass can be viewed at [www.Hist-net.de/Titel-Photogalerie/Titelgalerie.htm](http://www.Hist-net.de/Titel-Photogalerie/Titelgalerie.htm). Michael can be contacted at [MJ@MichaelJung.de](mailto:MJ@MichaelJung.de) or by fax at 49-06869-1789.

**ADC Inland/Coastal Conference and the Hunley.** This years conference will be held on October 26-28, at the Radisson Hotel Airport, in historic Charleston, South Carolina. The conference is attended by commercial diving contractors and, due to its geographical location, representatives from the U.S. Army Corps. of Engineers and the U.S. Navy are expected to attend also. There will be several technical sessions, a complimentary reception at the Carolina Yacht club, and a presentation on the search and discovery of the CSS HUNLEY, by Ralph Wilbanks. As an added attraction, there is the opportunity for a private tour of the HUNLEY at the Warren Lasch Conservation Lab. For complete information contact Tom Eason at 843-747-0548, or [tom@easondiving.com](mailto:tom@easondiving.com)



## HISTORICAL DIVING SOCIETY USA

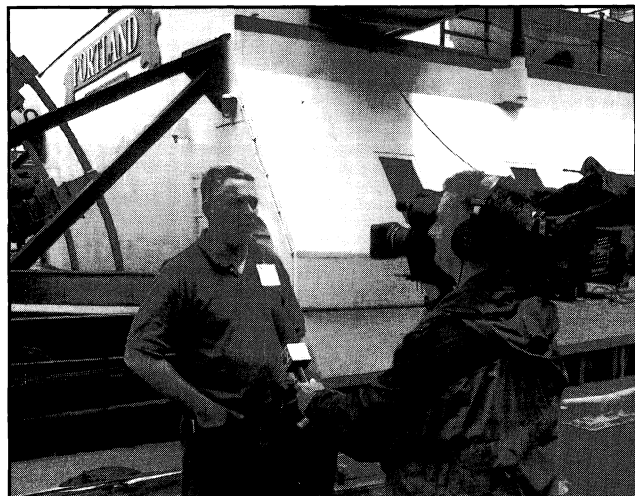


The Society is very pleased to welcome our new Advisory Board members, Bob Barth, Jim Caldwell and Dr. Christian Lambertsen. A brief bio on each of these accomplished diver's appears at the front of this issue.

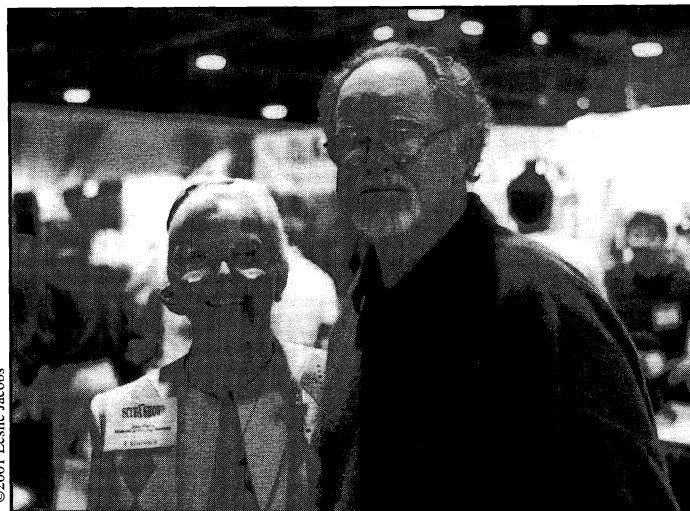
In May several members went north of the border to attend the HDS Canada Rally. Hosted by HDS Canada President Phil Nuytten, the weekend event was a memorable assortment of lectures, diving and sorting through Phil's expansive collection of old gear. Kent Rockwell was one of our membership drive winners and got to claim his prize - a ride in the Deep Worker. There is more about the event on the HDS Canada page.

On the first weekend in June, HDS-USA had booths at two west coast shows. Female diving star Zale Parry, Eva Trusty, Kent Rockwell and Peter and Sharon Readey manned our regular booth at the Scuba 2001 Show at Long Beach, California. Zale was busy signing copies of her new book *Scuba America* along with co-author Al Tillman who was visiting from up north. They did a very brisk business as friends and colleagues from their almost 50 year diving careers came by the booth. As usual Nick Icorn was curating his expansive collection of scuba equipment. Nick is the pioneer in the self-contained and recreational diving collecting field and he is now hotly followed by an army of collectors, many of who showed up to pay their respect. Our thanks go to Dale and Kim Scheckler for fitting us in at this great show.

At the same time the Long Beach show was running Sid and Aleta Macken and Leslie Leaney were operating the second HDS booth up at the ADC Western Chapter Conference in Portland, Oregon. One of the highlights of the conference was the demonstration of helmet diving carried out in the Willamette River by Global Diving, Fred Devine Diving and Diver's Institute of Technology. Organized by Sid and Jack Bartlett of Dive Safety Consulting, the divers operated from the historic stern wheeler PORTLAND, owned by the Oregon Maritime Center and Museum. Sid was also featured as the opening speaker at the conference giving a presentation on his research into Oregon diving history.



*Sid Macken and the press in Portland OR.*



*Zale Parry and Al Tillman at SCUBA 2001, Long Beach, CA.*

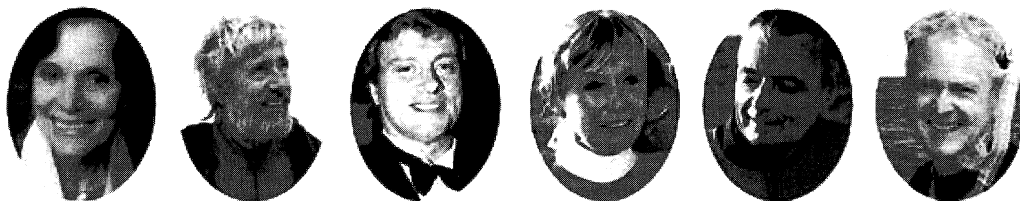
Bob Kirby came up from Santa Ynez and gave a presentation on his TV **Junkyard Wars** escapades, with Phil Nuytten sitting in the audience to ensure something like the truth was being told! As usual Bob's presentation was a conference highlight.

Closer to home, the Society has been working with the Santa Barbara Maritime Museum to establish a diving exhibit that covers the area's rich diving heritage. Several Society members are part of the Diving Exhibit Committee which is chaired by Kirby, who has also been elected to the Museum's Advisory Board along with divers Jean-Michel Cousteau, Ernie Brooks, Leslie Leaney and Peter Howorth. The diving exhibit is still being developed but already contains some fine helmets and a couple of pumps. An update will appear in a future issue.

In October, Chairman Lee Selisky and Peter Jackson will be at the Birmingham Dive Show in UK. If you are at the show, please stop by the HDS booth and say hello.

340 S KELLOGG AVE STE E, GOLETA CA. 93117, U.S.A.

PHONE: 805-692-0072 FAX: 805-692-0042 e-mail: HDS@HDS.ORG or HTTP://www.hds.org/



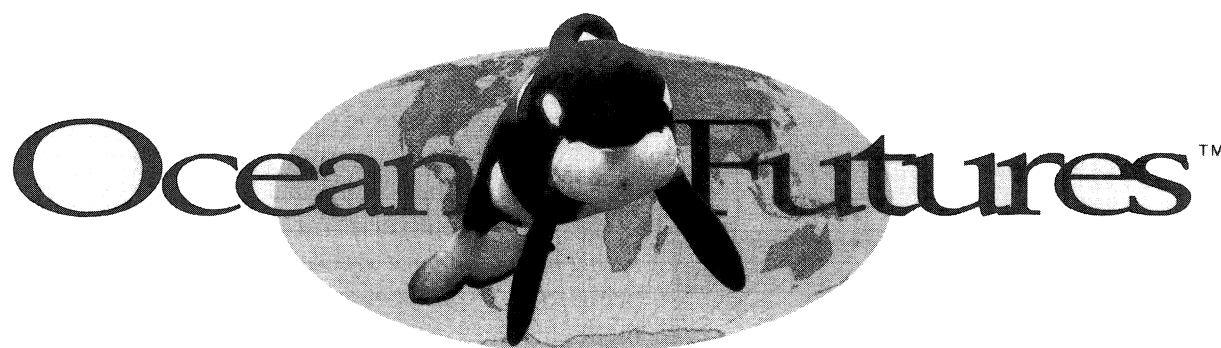
Featuring HDS-USA Advisory Board Members

Dr. Sylvia Earle, Jean-Michel Cousteau, Dr Phil Nuytten,  
with Ron and Valerie Taylor and host Reg Lipson

Sydney University Auditorium, Sydney, Australia

Friday November 16, 2001

[www.divetheblue.net/events](http://www.divetheblue.net/events)



*Jean-Michel Cousteau — Keiko*

Protect the ocean and you protect yourself

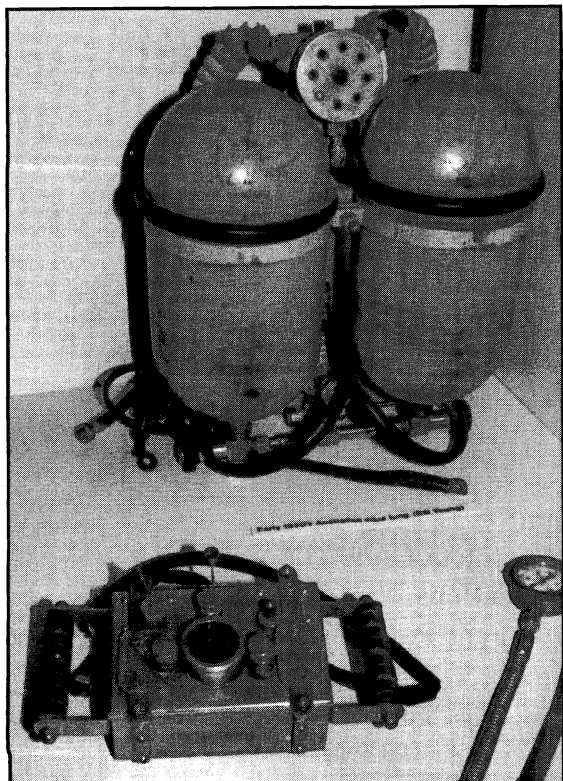
Ocean Futures  
is proud to support  
The Historical Diving Society

Please check us out at  
[WWW.oceanfutures.com](http://WWW.oceanfutures.com)





## HISTORICAL DIVING SOCIETY SOUTH EAST ASIA PACIFIC



*The Queenscliffe Maritime Museum, Victoria*

The annual rally in Sydney on September 29 and 30 is shaping up to be another great event. The NSW members are working hard on the program, and speakers for Sunday include Stanley Haviland, Jeff Maynard, Keith Gordon, Colin Wilcox and Eugene Maxwell. The topics range from the RMS NIAGARA and other passenger liners, to mine clearance in the Gulf War.

Members also have another great event to look forward to in Sydney on November 16. An Ocean Odyssey 2001 features guests speakers, Jean-Michel Cousteau, Sylvia Earle, HDS Canada President Phil Nuytten, and Australians Ron and Valerie Taylor. This great evening of speakers will be augmented by a HDS-SEAP lunch on the Saturday 17th for HDS members, and the speakers will be our special guests. This luncheon meeting will be a unique benefit of HDS membership.

HDS-SEAP member Des Walters recently had the opportunity to dive a little known helmet at the HDS Canada Rally. Des jumped at the chance to dive the unique French designed Lama bubble helmet. Only three other attendees got to do so. HDS-USA director Kent "Rocky" Rockwell had his reward for recruiting over 50 new members for the HDS USA by getting a dive in a Dual Deep Worker. There are more details of the rally on the HDS Canada page.

Peter Johns and Des Williams have been doing some great work in paving the way for the first HDS-SEAP Museum location. In keeping with the Society aims, the HDS-SEAP has endeavored to establish links with museums in the region. The Queenscliffe Maritime Museum, Victoria, has an extensive and interesting collection

to curate. Some time ago their Director, Dr. Henry Hudson, contacted the Society to suggest a co-operative display of diving gear. Both Peter and Des know the museum and Dr Hudson, so on behalf of the Society elected to take on the task.

One of the interesting pieces of the Museum's collection was a set of twin hose scuba gear, which was thought to belong to a Mr. Bill Young. Des asked the HDS office if we knew anything of Bill, and thanks to Ivor Howit, we did. Ivor's soon to be published *Fathomeering: An Amphibians Tale* often features Bill in the text. Ivor relates how his old dive buddy Bill Young built a set of scuba gear by copying from Ivor's imported early Siebe twin hose set. Underwater cameras were also "invented" and used with great success. Bill spent time in the Antarctic at several Australian bases, starting as an electrician in 1961 and progressing to an Expedition Leader on many occasions from 1972 until 1979. Bill Young, who received the Polar Medal and became a Fellow of the Royal Geographic Society, died at home 1 January 1992. Ivor's recollections have brought this exhibit to life and the historic twin hose set will now be central to the collection at the Museum. An interesting point is, that while the camera was Bill's the twin set belonged to Don Wicks, another dive buddy of Bill and Ivor's from the 50's

This gathering together of information and material, and presenting it within its proper historical context is surely what the Historical Diving Societies are all about.



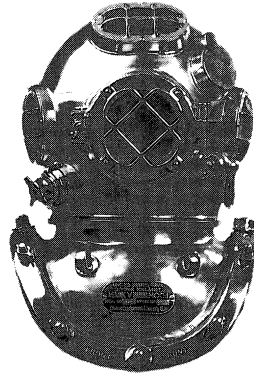
*Joe Olson and Des Walters with the French designed Lama bubble helmet*

# HDS-USA 2001 Raffle

## – Grand Prize –

Original U.S. Navy Mark V Diving Helmet

WIN!!



WIN!!

**Tickets are available from:**

**HDS-USA at the 340 S. Kellogg Ave Ste E, Goleta CA 93117**

**and from other supporting organizations.**

Tickets are \$5 each or 5 for \$20. Make checks payable to HDS-USA Fund Raiser and mail to 340 S. Kellogg Ave, Suite E, Goleta, CA 93117.

Winning tickets drawn at UI 2002 in New Orleans on March 2, 2002. Winners need not be present. Winners notified by mail and listed in HDM and on HDS-USA web site. See ticket for other details. Void where prohibited by law.

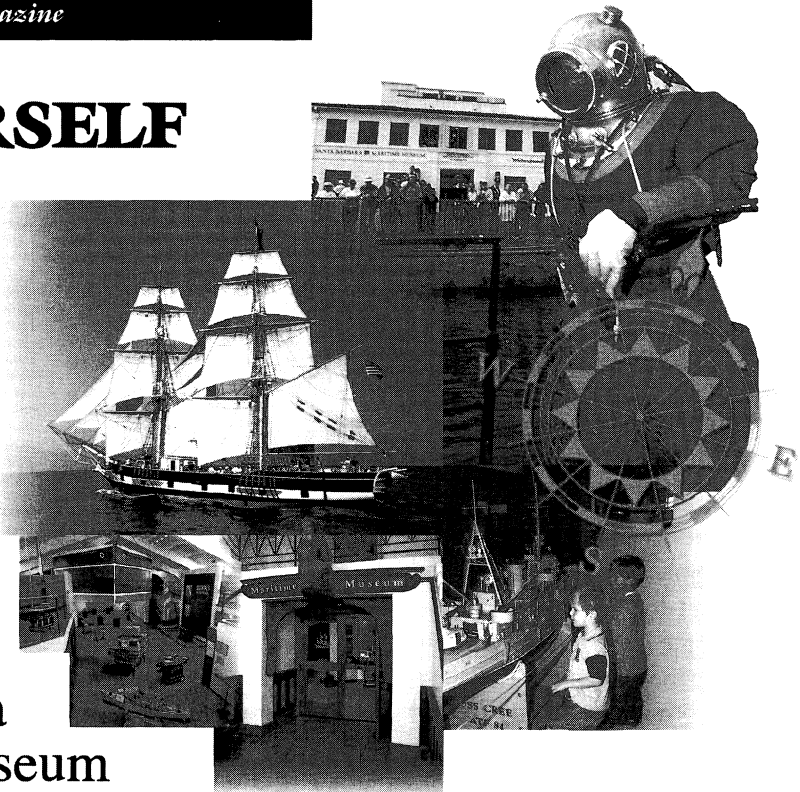
**Santa Barbara Maritime Museum is pleased to be a sponsor  
of *Historical Diver Magazine***

## POINT YOURSELF IN OUR DIRECTION

*Come discover the  
Santa Barbara Maritime  
Museum & Shop.  
Now open with interactive fun  
for the whole family.*



**Santa Barbara  
Maritime Museum**



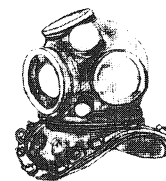
**113 HARBOR WAY**

**INFO: (805) 965-8864**

**WWW.SBMM.ORG**

# HISTORICAL DIVING SOCIETY CANADA

241A East 1st Street Rear  
North Vancouver, B.C. V7L 1B4  
Tel: 604-980-6262 Fax: 604-980-6236 e-mail: nrl@direct.ca



## HDS-Canada Rally

Over the weekend of May 26-27 2001, HDS members from the USA and Australia joined local members from Canada at the first national rally of HDS-Canada, held in Vancouver, British Columbia. Events began with a social evening hosted by HDS-Canada president Phil Nuytten and his wife Mary at their home. Several members who were unable to attend the rally came by to meet members from overseas, and included HDS-Canada director Don Leo Heaton and his wife Rose, and former Bermudan Prime Minister and keen diver David Saul and his wife Christine.

On Saturday morning at the Lonsdale Quay Hotel, Phil Nuytten welcomed everyone to the meeting and made particular notice of the work that his daughter Virginia had done to organize the whole event. The first speaker was Bob Ramsay (HDS SEAP) who had traveled about 8500 miles (one way) to attend. In his presentation "The Shipwreck of the Royal George and its influence on the development of diving technology," Bob argued that Col. Pasley's work in clearing the seabed from the obstruction of the 1782 shipwreck was paramount in the development of diving equipment. Bob also noted that the period before Col. Pasley's involvement in 1839, showed a great deal of alternative submarine activity involving bells and diving engines. The presentation solicited an interesting question and answer session.

Next up was Leslie Leaney from HDS-USA, who gave a colorful and educational presentation titled "Adventures in Diving History." This slide presentation of helmets and their owners followed an historical time line from A. Siebe through to modern day and was expanded by his detailed research into the builders of helmets and the divers who used them. This tale of collecting and collectors contained a great deal of fascinating diving history. Helmet collector Earl Pickering had traveled up from Washington State for the rally and items from his collection and those of other attendees including Lee Selisky and Bob Ramsay were among the helmets shown.

Rounding off a fine morning of talks, the vision of Phil Nuytten was bestowed upon the faithful with his "A Deep and Bent History." Phil detailed the plan to develop the local waterfront area that had produced ships for almost 80 years until the Versatile Pacific Shipyard closed in 1986. Phil explained that the reality of creating a diving museum has involved a major coming together of the City of N. Vancouver, commercial developers and a group of marine and diving historians.

After lunch, the dark recesses of Nuytco Research were opened up as the tour enjoyed following Phil through the significant collection of submersibles that he has currently in the garage. Vancouver has been, and continues to be, the home to many diving innovations. It could be argued that it is the submersible capital of the world, with so many famous vessels originating there.

On Sunday the HDS delegation gathered at the end of the CFI Dock in Vancouver Harbour and observed the pre-dive preparations of the Dual Deepworker. The team from Nuytco, perhaps the most skilled submersible operations team in the world, soon had the vessel ready for the first dive of the day. While Deepworker craft now working numbers into double digits, with hundreds of dives completed, the Dual variation is a new prototype vessel.

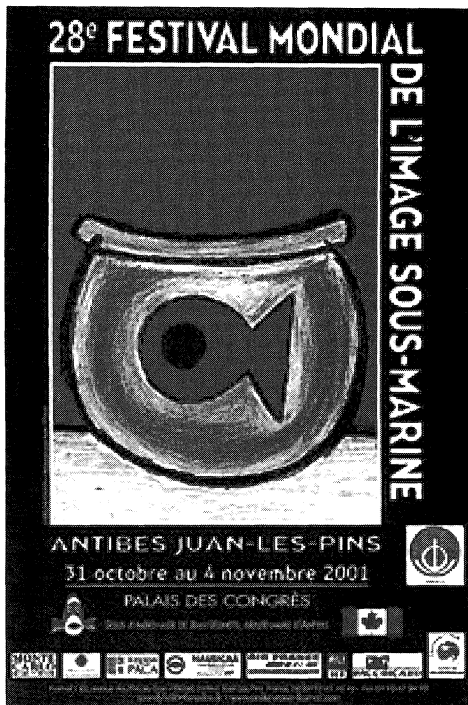
The principal reason for the Deepworker dives was to reward HDS members for their efforts in recruiting new members. Rocky Rockwell was the only one of those who had earned a dive to attend, so he had the honor of going first. He made the very valid point that offering your friends the opportunity to join the Society was great for them, great for the Society and in this case VERY, VERY, good for the recruiting member! HDS-USA and HDS SEAP thank Phil and Nuytco for this generous prize to boost memberships in these Societies. The dives were run by HDS-Canada director and submersible expert Mike Humphrey and the first dive was piloted by Steve Earley. Special mention must go to Mike Reay, who seemed to enjoy freezing while floating about on the surface, waiting to connect and disconnect crane hook ups.

After the Deepworker action there were several helmets awaiting their turn. Ross Cowell (HDS-Canada) had brought along a fine Morse Commercial and Phil had supplied a Kirby Recirculator and a Lama. The Lama was the one that attracted the most attention, so it was rigged and checked out. Ross dipped first, dropping on the diving stage to the bottom along side the pier. Des Walters (HDS SEAP) was next. Des, who runs Descend Commercial Diver Training in Australia, enjoyed the unusual Lama helmet experience. Joe Olsen (HDS-USA) followed, with Sid Macken's dive completing the day's activities.

The HDS-USA and HDS SEAP members who attended this fantastic weekend wish to thank Phil, Mary and Virginia Nuytten, Mike Humphrey, Steve Early, Jeff Heaton, John Allen, Catherine Clarke and the HDS-Canada Members. We look forward to next year's date with eager anticipation.

Bob Ramsay, HDS SEAP

**28th World Festival of Underwater  
Film & Images  
31 October - 4 November**

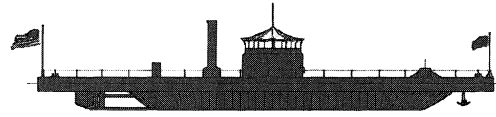


[www.underwater-festival.com](http://www.underwater-festival.com)

## Dive Into History

**Saturday — October 20, 2001**

The Historical Diving Society and  
The California State Reserve at Point Lobos  
present the 6th Annual Dive Into History  
*Join us for a Great Day at Whaler's Cove*



### Historic Divers on a Historic Shipwreck The U.S. Navy and NOAA Divers on the U.S.S. Monitor

By

John D Broadwater Ph.D.  
Manager of the Monitor National Marine Sanctuary

### Vintage SCUBA Gear and Equipment Contest

Lunch and Presentation \$18.00  
Reserve Entry \$4.00 – Dive Teams (3 persons) \$7.00

**RESERVATIONS FOR BOTH EVENTS  
CALL 831-624-8413**

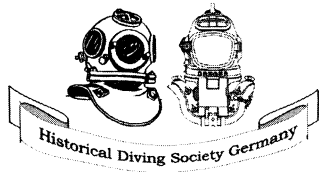
BODY GLOVE FOUNDERS BOB AND BILL WEISTRELL

## PROUD SUPPORTER OF THE HISTORICAL DIVING SOCIETY

# BODY GLOVE

BODY GLOVE AND THE HAND DESIGN ARE REGISTERED TRADEMARKS OF BODY GLOVE INTERNATIONAL, LLC





## HISTORICAL DIVING SOCIETY GERMANY

Broichbachtal 34, D-52134 Herzogenrath N W, Germany  
Tel. 011-49-2406-929-330 Fax. 011-49-2406-929-331  
[www.historical-diving.de](http://www.historical-diving.de)



We have been continuing to focus on gathering the printed works of Hans Hass for his Institute. On the Institut's website, [www.hist-net.de](http://www.hist-net.de), is a Photo Title Gallery of nearly all books written by Hans Hass, together with their translations and some interesting collector's items. However, the Gallery is not yet really complete, because Hans' books were translated in nearly 30 different languages and today it is difficult to find ALL these translations. We are still looking for the dust-jackets of several books, and also for various translations, e.g. Russian and Japanese Hans Hass books.

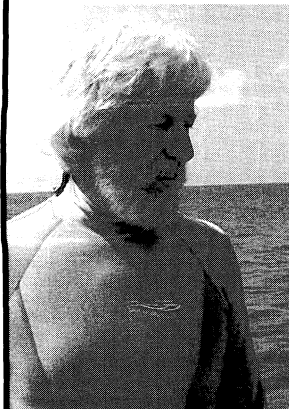
In this issue of Historical Diver we have chosen to illustrate the dust-jacket of the Bulgarian translation of *Expedition Into the Unknown*. If any HDS members own books by Hans Hass that are not shown in this Gallery could they please contact me, Michael Jung, so that I can add this information on the website. I am also interested in trading or buying any Hans Hass books that we do not currently have on the Institute's website or in our archive.

Michael Jung  
[Institute.mzg@t-online.de](mailto:Institute.mzg@t-online.de)

**DIVE 2001**  
**International Sub-Aqua**  
**and**  
**Watersport Show**

October 13-14

featuring  
**Jean-Michel**  
**Cousteau**



National Exhibition Center,  
 Birmingham, England  
 with HDS booth  
[www.diveshows.co.uk](http://www.diveshows.co.uk)

**Special Forces Divers Poster**

If you're looking for a poster to spice up your walls, check out the latest poster with an attitude. The Special Forces Divers poster image was shot by Steve Barsky at Ft. Lewis in Washington.

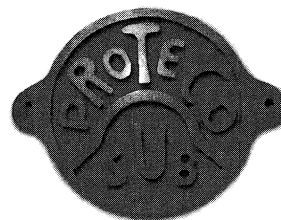
The shot features an Army special forces diver wearing a dry suit, closed circuit oxygen rebreather, and carrying a waterproof bag. Looking at these divers it makes you wonder how they manage to swim with the amount of gear they are wearing!

The poster is printed as a duotone on a heavy stock and measures 20X28 inches and retails for \$15.00. Shipping and handling is \$4.75. California residents pay 7.5% sales tax.

To order your poster, use the order form on page 59. Amex, VISA or MasterCard are accepted.



**Order your poster today!**



**PRO.TE.C.O. SUB.—ITALY**

is managed by M. Letizia Galeazzi the granddaughter of the "THE MAGICAN OF THE DEPTH" and today as yesterday we continue to manufacture and repair the diver's helmet equipment, with the antique handcraft techniques.

**Proudly supporting the**  
**Historical Diving Society**

[protecosub@col.it](mailto:protecosub@col.it)

Loc. Lagoscuro - 19020 CEPARANA ITALIA

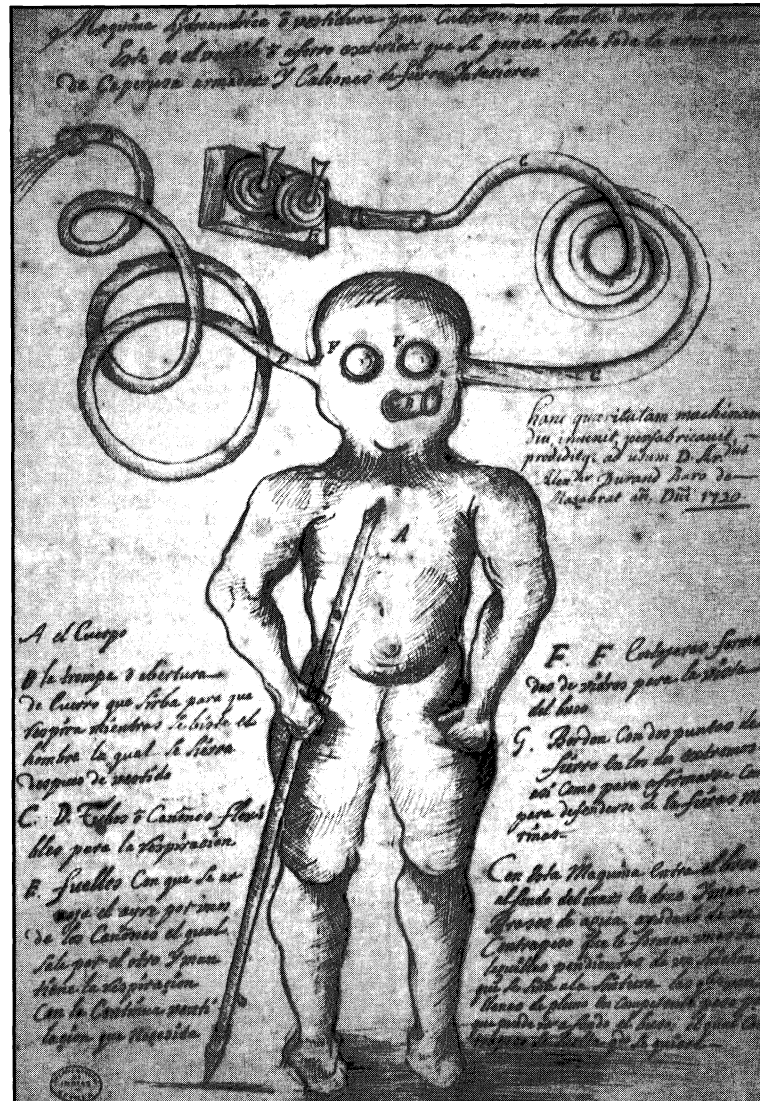
Tel. +39/0187.932264

Fax +39/0187.934699



## Historical Diving Society Mexico

Bosque de Ciruelos #190-601B, Bosques de las Lomas CP 11700, Mexico D.F.



In the last few issues of the magazine we have featured some pearl diving history on our page, and there have been articles on pearl diving books and helmets. We recently found some older pearl diving connections from South America that are long before anything in the magazine so far. We are not sure how many of our HDS amigos saw this very old diagram that was part of the *National Geographic Magazine's* "Ask Us" section. According to the information supplied it was part of a patent application from the 1700s and depicts a leather diving suit designed for the harvest of pearl-bearing oysters off the coast of Peru. We wonder if this was ever built and used? And if it was, where is it now?

Manuel Lazcano  
Image courtesy of *National Geographic Magazine*

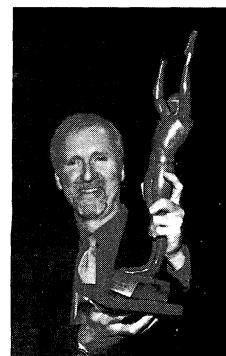


# 2000 and 2001 Awards Ceremony Videos

These videos all contain historical images and footage of each recipients career

## Diving Industry Awards Ceremony 2000 Video

Edited edition of the full ceremony with video overview of each recipient's career, presentation, and acceptance speech. Featuring E.R. Cross, Albert Falco, James Cameron, Andre Galerne, Phil Nuytten, Bob Hollis, Cathy Church, Gordy Shearer, Richard Grigg, Jim Stewart for Andy Rechnitzer, Phil Nuytten, Bob Ramsay and Jean-Michel Cousteau. Includes "Missing Awards" opening video. Color VHS, 90 minutes. \$20, plus \$4 domestic p&p.



## Diving Industry Awards Ceremony 2001 Video

Edited edition of the full ceremony with video overview of each recipients career, presentation, and acceptance speech. Featuring Dr. Christian Lambertsen, Ike Brigham, Tom Mount, David Taylor, John E. Randall, Sid Macken, Phil Nuytten, and representatives for Frederic Dumas, Ada Rebikoff and James Cahill. Includes "Missing Master of Ceremonies" opening video. Color VHS, 90 minutes. \$20, plus \$4 domestic p&p.

# WE'RE WATCHING OUT FOR YOU

Divers Alert Network  
is proud to sponsor  
Historical Diver magazine

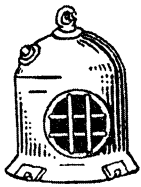
Phone: (919) 684-2948

Fax: (919) 490-6630

<http://www.DiversAlertNetwork.org>

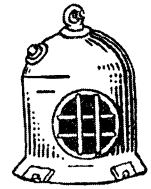






## Historical Diving Society Russia

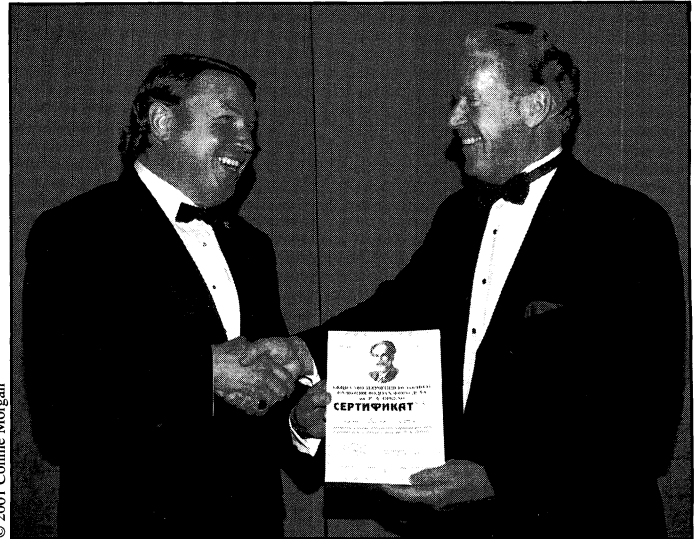
Dr. A. Sledkov, Director  
Gagarina Prospect 67, SPb  
Russia 196143  
sledkov@mail.admiral.ru



We have recently completed a first draft of a 40 page article on the history of diving. At the moment it is in Russian only but we hope to be able to translate it into English in the future. Some of the information is well known to diving historians, but some of our Russian history will probably be new information in the west. We are in contact with Andy at the HDS-USA office to access some images to accompany the article. We hope to publish the information in a magazine form but may also put it on the web.

We are happy to report that the respected American based doctor, Peter Bennett of DAN, has been awarded the distinguished Pavlov Medal from the Russian Academy of Sciences. This Academy was established by Peter the Great and has 277 years of service to the Russian people. Dr. Bennett received the medal from Dr. Yuri V. Natochin, Professor of Physiology and Dean of the Medical faculty at Petersburg State University. The medal is not given to a non-Russian very often. Dr. Bennett is only the 21st non-Russian to receive it and HDS Russia congratulates him on this prestigious achievement. The Academy has its own web site at [www.ras.ru](http://www.ras.ru)

HDS Russia is very grateful to HSA-USA in helping us get started and for supplying information and connections. To acknowledge the work of the American Society we have granted Honorary Lifetime Memberships in HDS Russia to Chairman Lee Selisky, President Leslie Leaney, Secretary James Cunningham and Executive Director Andy Lentz. We were pleased to meet with Jim Cunningham on his visit to Russia where we were able to show him some old diving equipment used by the Russian Navy. Jim said St. Petersburg, Russia was very different from St. Petersburg, Florida. We hope to see more HDS members when they are able to travel to Russia.



*Dr. Peter Bennett presents HDS-USA's Leslie Leaney with his Honorary Lifetime Membership in HDS-Russia*

---

## 1943 USN Diving Manual

After America entered WW II, the U.S.N. faced an escalating problem of salvage, construction and repair work around the world. This expansive diving manual was produced to assist U.S.N. divers in tackling these problems and introduced several new diving techniques and items of equipment. It replaced the 1924 manual and is the first manual published that encompasses the results of the successful U.S.N. diving operations with surface supplied oxy-helium. It introduces the U.S.N. Mark V helium helmet, as well as three shallow water systems, including the ORCO Berge mask. Contents include: development of diving and training of navy divers; description of Navy standard diving outfits; shallow water diving apparatus; equipment maintenance; physics of diving; dive planning; dressing the diver; tending the diver; working on the bottom; diving with the helmet only; compressed air illness; diving accidents; deeper diving by use of oxy-helium mixture; salvage and special gear; and more.

Soft bound, 267 pages, b&w photos, illustrations, graphs, index, and complete with fold-out diagrams. Tape bound spine, blue card stock cover, first generation photocopy on 32 lb paper, from an original 1943 U.S.N. Manual.

**AVAILABLE FROM THE HDS USA BOOKSTORE** order form on page 59 or on the web at [www.hds.org](http://www.hds.org). \$30.00 plus \$4 domestic, check with us for overseas p&p. CA residents add 7.5% sales tax.



# Pearl Harbor Diver

## Lester Ritchie

December 7, 1941 — A Day of Infamy

By Dorothy Barstad



*The explosion of the forward magazine of the destroyer Shaw.  
To the right Nevada can be seen making her escape attempt.*

It was a world far different from the world of 2001. A world where there was no television. No satellites, no tracking devices, no computers. Where radar was new and not completely trusted. A world where radio, the written word, and the magic of “moving pictures” were the most powerful forms of communication. A world where in the aftermath of an horrific attack, ordinary men performed extraordinary duties. It was a world where lesser men could not have faced the tasks that had to be faced. This is the story of just one of those ordinary men, Lester Ritchie.

It was late fall in 1941 when 21-year-old Lester Ritchie and his buddy, Merle Springer, stopped to pick up their

mail at the post office in McMinnville, Oregon. The night postal clerk was tacking up a notice: “Men needed to work at Pearl Harbor Naval Shipyard.” The clerk turned and spotted Les and his buddy. “Here, take one of these. This is just what you fellows are looking for.” Les reached out for the flyer and replied, “Where in the hell is Pearl Harbor?” “In Hawaii,” the clerk replied. “They will pay your way over, and if you don’t want to stay, all you have to do is work six months, and they will send you back. All expenses paid. What more could you want? A chance to see Hawaii and a good paying job while you are there!”

“Hey, Les, let’s give it a try!” chimed in Merle. “You

want to get married soon. This will give us a chance to make some extra money and go to Hawaii too!”

After taking U.S. Civil Service exams, both men were hired as laborers and were soon on their way to Pearl Harbor aboard a military troop ship, the U.S.S. HENDERSON. Upon arrival at Pearl Harbor, they were assigned living quarters at the Navy Cantonment, a barracks for civilian employees located next to Hickam Field. Merle was assigned to the carpenter shop and Les to the rigging loft. The rigging loft was in charge of the dry-docks. First day of work: Monday, December 1, 1941.

### **Welcome to Hawaii**

Planning to go to Waikiki Beach on their first Sunday in Hawaii, they were awakened by the loud roar of planes flying low over Hickam Field. The landing field was located just 20 feet or so on the other side of a chain link fence. Surprised that a training practice was being conducted on a Sunday morning, many of the men ran out in time to marvel at how authentic the planes were, even to the point of being painted to resemble Japanese aircraft, including a red ball on the underside of the wings. Their amazement turned to horror in the next few minutes as the Japanese pilots opened fire on the U.S. planes lined up in the center of the field, wing tip to wing tip. Pilots were running to their planes hoping to get airborne, not only to save the planes, but to fight the attacking enemy aircraft which filled the sky. Les remembers the day very clearly.

“The Japanese planes were so low we could see the pilots’ faces as they began to open fire. Many of our pilots had reached the planes when the bombing and strafing began. The planes were so close together that when the first one exploded it went right down the line, one right after another. In a few minutes there were dead and wounded all over the field. Planes and buildings on fire, ammunition and gasoline tanks exploding, air raid sirens screaming.

“We were told to dress and report to our assigned work area as quickly as possible. We ran, several thousand men, to the main gate at the Pearl Harbor Shipyard, but everything was so disorganized. The Marines on sentry duty wouldn’t let us pass. We were held back at gunpoint until an officer arrived and authorized the Marines to admit us so we could help. I immediately reported to the rigging loft and was sent to the drydocks to fight the fires on the U.S.S. CASSIN and the DOWNES. In the number 1 drydock were two destroyers, the CASSIN and the DOWNES, as well as the battleship, U.S.S. PENNSYLVANIA. The CASSIN and DOWNES were engulfed in flames from a ruptured gasoline tank. Soon, explosions in the magazines and a torpedo completely destroyed both ships. The fires from the two destroyers were so intense that the paint on the starboard bow of the PENNSYLVANIA caught fire. Although the PENNSYLVANIA was a primary target of the Japanese, she

sustained only minimal damage even though she was struck amidships by a bomb, killing 26 men and two officers. The CASSIN and DOWNES were completely destroyed. The dry-dock was flooded to help in controlling the fires, but this caused the CASSIN to roll over against the stricken DOWNES.

“Every few minutes a Japanese plane would fly over and strafe the PENNSYLVANIA. We would turn off our fire hoses and run for cover. Once, the water wasn’t turned off when the planes came in. Everyone dropped the hose and ran, leaving just three of us on the line. We couldn’t let go because the pressure from the water would have whipped the hose back and forth making it as dangerous as the bullets. We hung on and luckily none of us were hit.

“At sometime after midnight, we were sent over to the 10-10 dock. The U.S.S. HELENA had been hit by a torpedo, which put two holes in one side. It was secured to the dock, but was taking on water and listing badly. We were told to unload the food lockers so the compartments could be flooded in hopes of righting the ship. A hundred or more men made a chain to take out the tons of meat, chicken and frozen food. We did this for several hours until they could wait no longer to flood the compartments as the dock was starting to pull apart. In all those hours we had not eaten. Not even a cup of coffee. When we went topside, we found the cooks were frying chicken on the biggest stove I had ever seen. It must have been 30 feet long and was just covered with chicken. They told us to sit down and eat all the fried chicken we wanted. I think I ate two or three whole chickens I was so hungry. After eating I returned to the rigging loft where my supervisor told us to get some rest as they expected another raid at daybreak and he wanted us all back at our shops. There was a pile of sand used for sand blasting that had a little cover over the top. I crawled up in there for the few hours we had before dawn.”

### **The Cleanup**

The expected air raids and invasion of ground troops on December 8 did not materialize. Now started long hard days of burying the dead, caring for the wounded, cleaning up the broken ships, the damaged buildings, docks and airfields. Les recalls the work week as a grueling seven days filled with twelve hour shifts to tackle the monumental task.

“The next morning there was no raid much to everyone’s relief, but also there was no breakfast. The cafeterias were contracted out and the people who ran them couldn’t get in to prepare the food. It was sometime late in the day before the cafeteria opened and we got another meal. We were sent out in trucks to help recover the dead and injured. I was on one of the trucks picking up the dead. We were stacking them on there like you would stack hay in a hayrack. We had quite a load by the time we got down to the other end of the shipyard. All morning, every

hour or so, air raid sirens would go off whenever a plane was spotted in fear the Japanese were launching another attack. We had ten of those alarms that day. They were expecting to have the Japanese infantry land. The Japanese made a big mistake as they could have driven right on in the front gate we were so vulnerable.

"The remainder of that week I was working down in the dry-dock cleaning up all that mess from the ships that had burned. There was about two feet of water, oil and sludge down in the bottom. Even after they drained it, it was still an awful mess. The ships had been blown all to pieces and were just like crushed beer cans. They couldn't get any machinery down in there, so we took 50 gallon barrels and used scoop shovels. All those dead bodies and stuff that had been blown out of the ships. You didn't know if you were picking up someone's leg or a ham from one of the ships."

### **Divers Wanted**

"Several days later I saw a notice posted at the shop for divers and helpers. I didn't sign up right away, but continued to work down in the dry-dock where the rapid deterioration of bodies and meat caused by the tropical heat was making it almost intolerable. I finally decided to sign up for the diving crew, but found they only needed five men and so many had signed up the lead diver was going to pick his own men. So I went back down into the dry-dock and started shoveling.

"Later that same day, my foreman called me up out of the dry-dock and told me to report to the lead diver. A man called Gottschalk. He asked if I would be interested in being a diver. I replied, 'Is it any dirtier than this?' He laughed and said, 'It could be!' I wondered what made him notice me down in all that muck with all those other men, but told him I would give it a try. I was told to report to the dive lockers and get cleaned up. Take a shower, shave and get some clean coveralls and wait there, as he would be down shortly."

### **Learning to Dive**

"That was my first shower since the day of the attack. We had no running water at the barracks and had been washing the best we could with a little cold water. I had grease in my hair and hadn't shaved in all those days. I was just an awful looking mess. After I got cleaned up, I checked out all the equipment and looked over all the dive gear and hats. I wondered to myself, 'What in the world would you do in one of those things?' The lead man picked me up with a small boat and took me over to the U.S.S. CALIFORNIA, which was sunk on the other side of the bay. On the way across he explained that I would be pumping air for a few days until barges equipped for diving with motors and air compressors could be prepared for our use. My diver would be training me in the meantime whenever he had some stand-by time. The air pump being used was one of the old two-man type with the large wheel on

## ***The World's leading manufacturer of Underwater Lift Bags***



*Is a proud sponsor of*

## **HISTORICAL DIVER**

**SUBSALVE USA**

P.O. BOX 9307  
PROVIDENCE, RI 02940 USA

Ph: 401.467.6962

Fx: 401.521.6962

Email: [Richard@Subsalve.com](mailto:Richard@Subsalve.com)

<http://www.Subsalve.com>

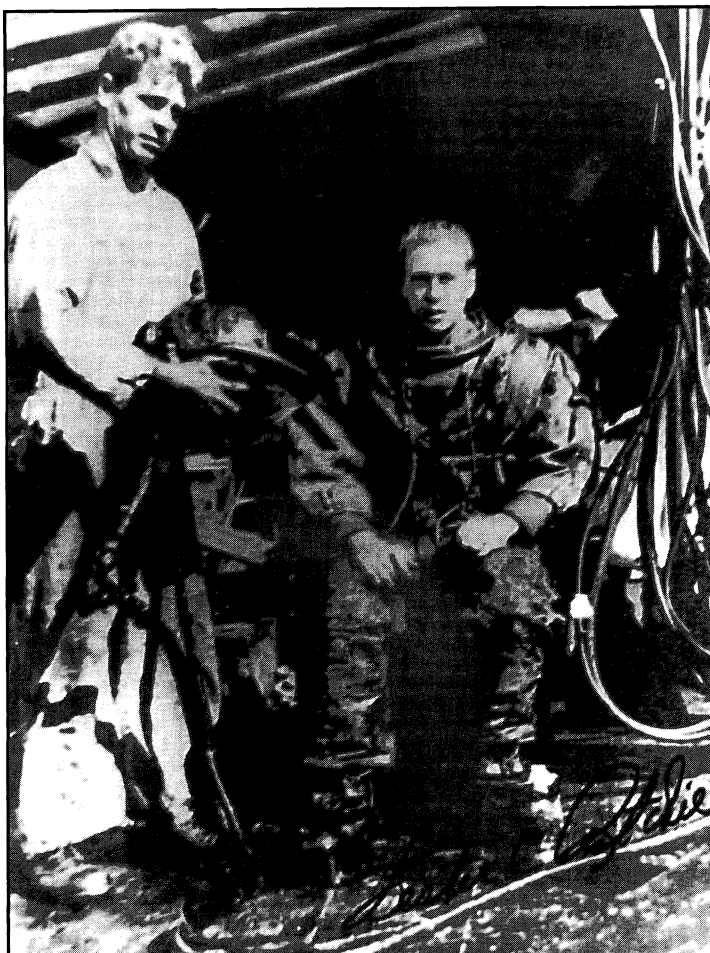


each side. With the diver down it had to be pumped constantly. You couldn't even stop long enough to light a cigarette. The minute you stopped, your diver was out of air. So I pumped air.

"As it turned out, I pumped air for several days and had about 15 minutes training. After several days of pumping air, my diver told me to get suited up and he would teach me to dive. Well, I went down all right, but came back up upside down. I had blood running out of my ears. I was just getting undressed when the lead man came up and said, 'Well, I am glad to see you have learned to dive. I have a man here to take your place on the pump and I want you to come with me.' We loaded into his little boat and on the way across, he asked, 'Do you think you can dive now?' I replied, 'Well, I suppose I can.' I hated to admit that I had been down only the one time and upside down to boot!

"We went back to the dive locker and got my gear ready for the next day. We were using the Navy Mark V gear. The next morning, we went down to the marine railway. This was a track similar to a railroad track, but built on cement pilings and used to bring a ship into dry-dock for repairs. It was used for the submarines and small destroyers, but had been damaged when keel blocks were not set correctly causing a ship to tip over. Because of the size of the newer submarines and the start of the war, it was decided to build a larger marine dry-dock rather than trying to repair the old one. The old pilings and track had to be removed before the new construction began. I was using a 90-pound air buster with extra weight belts to hold me down. I must have had on about 300 pounds of gear.

"After working down there for a couple of weeks, I could see we just weren't getting anywhere as the cement was so hard you just couldn't bust it up. I happened to see the plans for the new dry-dock and noticed the new rail



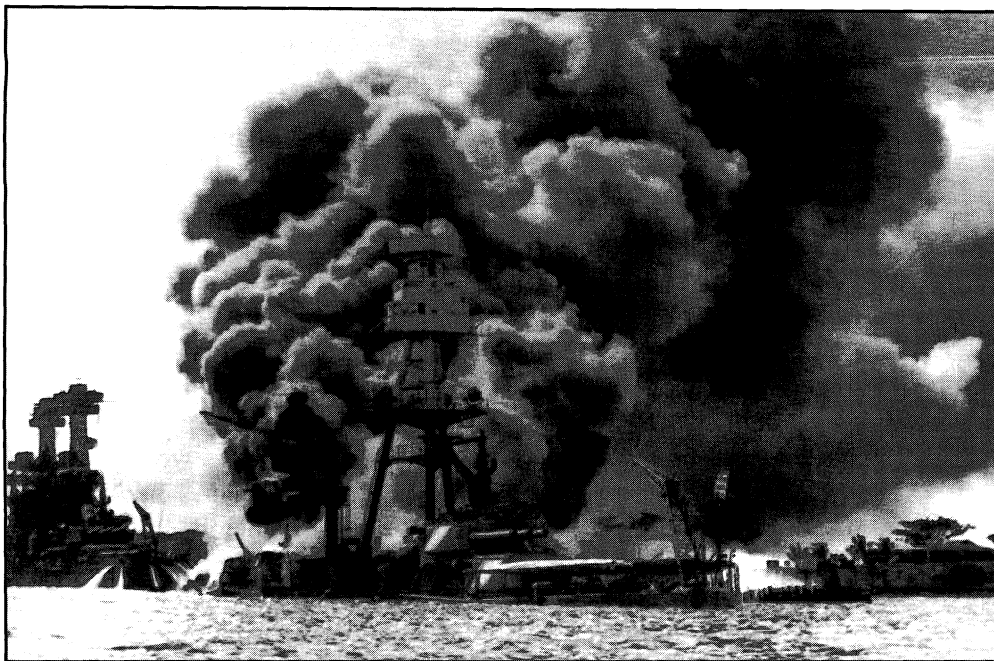
*Lester Ritchie and his tender at Pearl Harbor in 1942. This is a rare photo as the salvaging of the ships was classified and no cameras were allowed. The only photos taken during this time were done by official Navy photographers. Lester was training some Seabees and one of them smuggled in a camera and took this photo.*

would be higher and six to seven feet farther out than the old rail. I pointed this out to the lead man. 'Les,' he said, 'the first thing you will learn: you never tell the Navy how to do anything.' We continued working every day, twelve hour days. That air buster was just jarring me to pieces. Even with the extra weight belt, you would just lay with your stomach across that thing and couldn't bust off a piece of cement much bigger than your hand. I was working with another diver and I had managed to clear about 40 feet on my side of the rail, but he wasn't even that far along.

"I was so sore all over I could hardly move. I decided I would have to quit, as I couldn't take much more. I went in to see the lead man that night after work, but he was out of the office, so the next morning I dressed-in and went down. I had only been down a few minutes when my tender told me the lead man wanted me to come up and report to the office. He said, "Well, Les, you were right. That old cement doesn't have to be taken out and we are going to go ahead and pour the new cement. The Navy has decided they can build the new track right over the old one." We talked for a bit and he could see that I was about done in. He said, 'Les, get some rest first. Just go back in the office, lay down on the cot and take a nap. You look like you are about to cave in.' 'Well, I am,' I replied. I slept until six that evening. After a couple of days I got so I could handle myself again. Anyway, that's how I came to be a diver. I don't think I could have had a job that was any harder. It would just shake the living daylight out of you. If I had false teeth, they would have been laying down in my diving suit as there would have been no way I could have kept them in my mouth.

### Salvage

"Next we were sent to the U.S.S. CALIFORNIA. They were building cofferdams trying to seal off some of the holes in the ship so they could get it into the dry-dock. I



*Late afternoon on December 7th, Fires still rage on board the shattered ARIZONA, her flag still flying. TENNESSEE (left) had to keep her screws turning to keep ARIZONA's fires away. The water pouring over the stern of TENNESSEE is the overflow from her flooded aft magazines.*

was to survey the damage on the port side and look for cracks in the hull. I didn't find any cracks but did find where some rivets had popped out. A cofferdam was built at that spot to keep the water out. Occasionally they would send me over to the Navy Yard on a salvage job. One day I was sent to locate a crane that had tipped over and fallen into the harbor. The lieutenant in charge said it wouldn't be a big job, just drop straight down, hook a cable onto it and they would pull it up. I spent the day probing in the silt with a piece of re-bar, but wasn't having any luck finding the crane. When my lead man came over, he told me not to expect the crane to be straight down that it was probably out quite a way. After six or seven days, I located it about 200 feet out. It had floated that far before it had settled. I had never done anything like this before and it was a new experience for me. They brought in a big floating crane and I took cables down, hooked onto it and brought it right up. I guess it wasn't damaged too badly as about four or five days later I saw it running down the tracks.

"After that they sent us over to the U.S.S. ARIZONA. My lead man told me to plan on this being my permanent job unless something was posted on the bulletin board telling me otherwise."

### **A Job for a Blind Man**

"We went over to the U.S.S. ARIZONA and started diving. Although there were a number of other civilian and Navy divers working on the ARIZONA, I was the only civilian diver to work down on the inside. My first job was to bring up the silver service (\*) from the officers dining room. The silverware was later auctioned off in the States

as a promotion to sell war bonds. An officer had been over and told me they wanted all the silverware brought up and gave me a list of the pieces in the set. I asked him, 'Where in the hell do I find it?' He said, 'I don't know. It's your job!' I didn't have any idea of how to find the officers quarters in that big ship. I had never been on a ship until we sailed on the HENDERSON. I talked it over with my tender and he managed to obtain a copy of the blueprint for the ARIZONA and with that we were able to locate the officers mess.

"The table had been set for breakfast and, as you can imagine, after the explosion the silver was scattered all

over the floor. I probably would never have found all of it if I had gone to a diving school. The one thing you don't do is get down on your knees in one of those Mark V suits unless you are a really good diver and know how to operate the air. If you get upside down with a ceiling overhead, you can't get out. The helmet fills with water and you drown. Anyway, not knowing any better at the time, I just crawled around on my hands and knees. Once in awhile, I would feel my feet start to float up and I would very quickly release my air. I did find all of the silver except for one platter. You would think it would only take a couple of hours to pick up half a sack of silver, but I think it took about ten days. Everything you did was just days. Of course sometimes it would take an hour or two to get down to the place you were to work.

"Keep in mind that there was no light — just pitch black. Lights were of little use. Not only did the additional line cause extra problems by getting hung up, but also the floating oil, sediment, and other debris in the water caused the light to reflect back into the face plate. There was a six to eight-inch layer of oil on the surface of the water. The minute you went through the oil layer, it coated the faceplate.

When you came up you could tell you were out of the water, but you couldn't see anything. I had two sets of Mark V diving gear. When I came up the dress and helmet would be just covered with a half-inch layer of all this oil and gooey tar-like substance. There was a little Filipino boy on our crew and his job was to clean the dive gear. Over the dress I wore a pair of bib overalls, which was made of heavy canvas and had two big pockets. Of course,

I didn't come up too often, as it was too difficult to get in and out. A lot of days I never came up at all, not even for lunch. I would put on a pair of gloves until I dropped under the layer of oil, then take them off. This would leave my hands free to feel my way around without having them coated with oil. It was surprising how much you could do by just feeling. It was just a blind man's job to work down there."

### Inside the wrecks

"I would study the blueprints of the ship and plan a route. I had to be able to see this in my mind. My tender would go over it with me and help me keep my bearings and recognize the compartment I was in. Sometimes you couldn't get through as the bulkhead doors would not open or wreckage would block the way. Then you had to find a different route. You might be down only 25 feet in depth but you would have 150 feet of air hose out because of the wreckage and different obstacles in your path. It was a slow-moving process to get out as well, sometimes taking two hours, as you would have to pull and roll all that hose as you went. The air hose and the life line were taped together at about three foot intervals and were constantly getting hung up on something. And of course, you couldn't go until the air hose went. You would have to go back until you found where it was fouled, and start again.

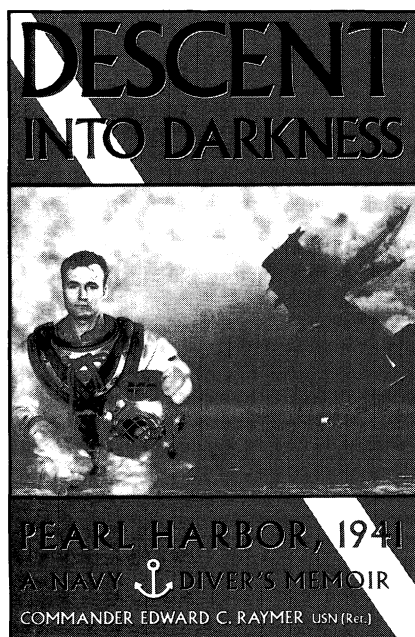
"Bodies were a priority. When I found one, I was to bring it up immediately. At first we took out a lot of bodies, but after a time the bodies had deteriorated so and became so water logged it was decided to leave them on the ARIZONA. Once in a while a piece of a body would be

brought up, or a skull. That was an awful thing. Sometimes they would follow along in the stream made by the exhaust on the helmet. On one occasion, I could feel something, bump, bump, bump, at the back of my hat. I felt around, but couldn't find anything. A few minutes later — bump, bump, bump. As I went up through the hatch a skull popped up to the surface right beside the dive barge and my tender was able to scoop it out of the water. It apparently had been pulled along by the air exhaust and had followed me out."

\*) The silver service from the officers dining room should not be confused with the USS ARIZONA Silver Service that was presented by the citizens of Arizona shortly after the ship was commissioned. The USS ARIZONA silver is a very ornate, 87-piece set that was used for entertaining high ranking officers and visiting dignitaries. With the possibility of war, the silver was put into storage at Bremerton, Washington before the ship sailed for Hawaii in 1941. It is currently at the Arizona State Capitol Museum in Phoenix.

*Lester's Pearl Harbor adventures will continue in the next issue read how he eventually finds the missing silver platter and survives several close calls.*

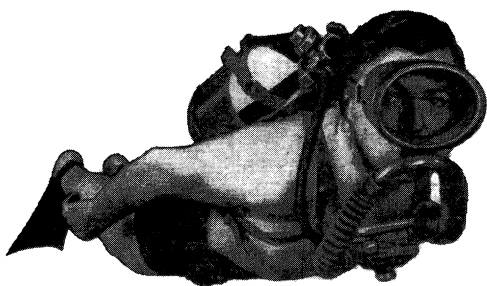
*Publication of this article is made possible in part through the generous sponsorship of Sea Pearls.*  
[www.seapearls.com](http://www.seapearls.com)



## DESCENT INTO DARKNESS

PEARL HARBOR, 1941. A NAVY DIVER'S MEMOIR. By COMMANDER EDWARD C. RAYMER USN (Ret). 1996 1st Edition.

U.S.N. divers and their desperate attempts to save crew members caught inside the sinking ships at Pearl. The salvage attempts on the ARIZONA, OKLAHOMA, UTAH, WEST VIRGINIA, NEVADA, and CALIFORNIA are also covered. 214 pages, B&W photos, hardbound. \$22.00, \$5.00 domestic P&P, contact us for overseas shipping. CA residents add 7.5% sales tax.



## The D.I.Y. Diver

A record of homemade diving equipment compiled by Peter Jackson

### Making an Aqualung

How to Construct Your One Underwater Swimming Apparatus

By E.T. Fearon

From *Practical Mechanics* (U.K.) January 1955

Underwater swimming is a sport which is fast growing in popularity all over the world. In this country its devotees are limited to about four months sea-swimming in each year, but the enchanting new world that is opened up - even to swimmers of only average ability - makes it a sport that is sure of a large British following. By wearing flippers and goggles alone, it is possible to view marine life clearly and at close quarters, holding the breath to dive in order to inspect anything which attracts the attention. With the simple addition of a snorkel tube one can either lie motionless on the surface of the water or move slowly along, with a gentle movement of the feet, while continuously watching the colourful panorama below.

This sport is known as "skin diving"; but any skin diver will tell you that the final thrill of the sub-aquatic sportsman comes with the possession of an aqualung. "Aqua lung" is the name given to the self-contained compressed-air diving apparatus which permits a trained diver to swim down

to two or three hundred feet below the surface, or to explore the sea-bed in shallow waters for 40 minutes at a time. While a new aqualung might cost £40 to £70 it is possible to assemble a home a perfectly reliable piece of equipment for approximately £14. The work involved is well within the capability of the average model engineer, as will be seen from the line drawings which illustrate the modifications that have to be carried out on easily obtainable parts.

#### Warning

Before going on with the details of the home-made aqualung it would be as well to point out that, simple as this equipment is, in the wrong hands, or in inexperienced hands, it could be a source of serious trouble. A cylinder explosion could be quite easily fatal, so there must be no question of using anything but a new, fully certificated cylinder. Air jets, either at 2,000 or 20lb. per sq. in., can also cause bodily harm; they must be treated with the utmost respect and that simply means that no air must be allowed to escape.

Private pumping to re-charge cylinders must not be considered, for it is a specialist's job. Empty cylinders should be sent to a depot of the British Oxygen Company Ltd., who will ensure that they are tested regularly by hydraulic pressure to practically twice the

working pressure.

Before finally using the aqualung, take course of instruction with your nearest branch of the British Sub-aqua Club. The fee will be money well spent for you will learn not only straightforward diving, but also what to do should an emergency arise. After graduation to sea diving, always stay as close to the surface as you can swim with empty lungs, for you may have to do just that one day. And in any case never dive deeper than 60ft. nor stay there for in more than 15 minutes at a time, and you need never fear the bends.

The aqualung described here has been thoroughly tested and has been used successfully in many dives. It is believed to be a safe and trustworthy piece of equipment. However, neither the editor, author, nor publisher of this journal will be able, to accept responsibility for any accidental damage to person or property arising from the use of a similar equipment.

#### Principle of the Aqualung

The reason there is a limit to the useful length of a snorkel tube is that water pressure increases at the rate of 15lb. per sq. in. for every 33ft. of depth. It is noticeable when "treading water" with the mouth just above the surface that breathing requires a slight effort; if the lungs sink 2ft farther below the surface the pressure of the surrounding water prevents them working at all. In order to counteract this effect, the aqualung is arranged automatically to adjust the pressure of the air it supplies to equal the pressure of

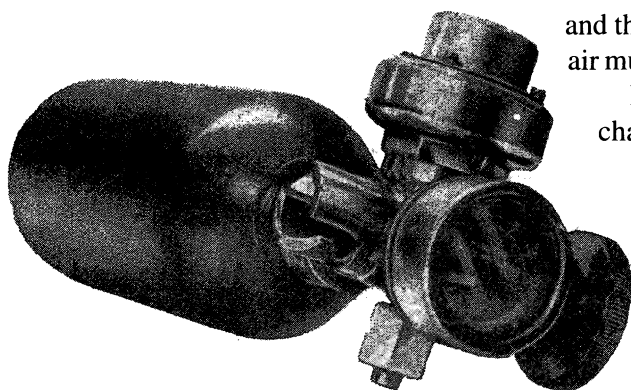


Fig. 1. The R.A.F. oxygen regulator in its original cylinder; the closure valve, reducing valve and gage are unscrewed as one unit and fitted into a much larger cylinder, which although capable of holding 40 cu. ft. of air weighs only 14lb.



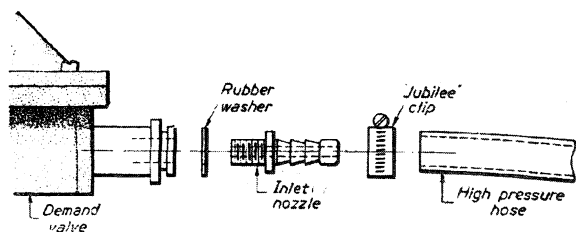


Fig. 2. Modification to the inlet side of the low-pressure valve.

the surrounding water. This is done by the "demand" valve, which also conserves the air in the cylinder by closing when the lungs are not taking in air.

The cylinder has a capacity of 0.4 cu.ft., and it contains 40 cu.ft. of air, compressed to a pressure of 2,000lb. per sq.in., when fully charged. This extremely high pressure has first to be reduced by a valve to about 100lb. per sq.in., and the air is then fed to the demand valve, which performs the dual function of equalising the pressure in the inlet tube, to that of the surrounding water and supplying air to the lungs as soon as they inhale

Conventional aqualungs terminate inlet and exhaust tubes correctly close together but as the complete valve gear is mounted in a single unit on top of the cylinder there is often a difference in pressure between the sensitive demand valve and the diver's mouth. In, the normal horizontal swimming position this causes the air to be a little difficult to draw through, but while the diver is swimming on his back the valve is placed well below the level of his face, and causes a leakage of air through his nose and dive mask. The aqualung to be described avoids the worst of this trouble by having separate demand and reducing valves, and the demand valve is worn in the best possible compromise position, high on the diver's chest. The same conditions dictate that the inlet and exhaust tubes should terminate close together at the demand valve; if they were only a few inches apart there would be some positions of the diver in the water where the demand valve would be at a greater depth and pres-

sure than the no-return valve in the exhaust tube, and there would be a continuous waste of air.

### Cylinder, Closure Valve, Reducing Valve and Gauge

The following descriptions of equipment to be bought and modifications required deal in a logical order with the high pressure gear first, then the reducing valve and low-pressure demand valve, breathing tubes, and exhaust valve. The items to be brought and sources of supply are given on page 166 in the "Parts List."

The high-pressure oxygen regulator, Fig. 1 should first be unscrewed from its small cylinder and this may prove to be a job for the local garage if the thread is obstinate. Then the complete reducing valve, with its hat-shaped cover, should be unscrewed, revealing the microscopically small oxygen aperture in the valve outlet. This jet should be removed by unscrewing and the aperture soldered up. Care should be taken not to lose the copper washer which seals the jet in place, for both jet and washer will

prevents this escape of air.

The heavy spring against which the metal diaphragm of the reducing valve operates is a steel spring, and therefore liable to rust.

It should be removed and either plated with a corrosion resistant metal, or else well greased and kept well greased. It may be taken out after removing the hat-shaped cover and unscrewing the large hexagon lock-nut and hexagon nut. Alternatively the cover may be waterproofed by soldering a path over the 1/8in. diameter hole and seating the cover on to a rubber washer.

The other components which form an integral part of the high-pressure oxygen regulator are a closure screw-valve, a gauge calibrated 0 to 10 minutes, a female bayonet outlet connection and a refilling connection which is normally closed by a blind 1/4in. B.S.P. nipple.

The gauge reads to minutes when the cylinder is filled to 1,800lb. per sq.in., so at the maximum permitted filling pressure of 1,980lb. it will read just above this figure, and when the cylinder is only half full it will read just above the five-minute mark. It is important to have this gauge sealed up

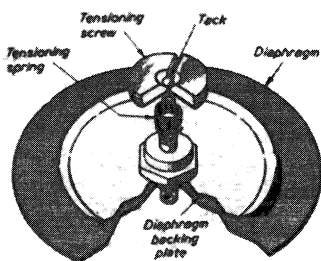


Fig. 3. Arrangement for tensioning the diaphragm to keep the low-pressure inlet valve normally closed.

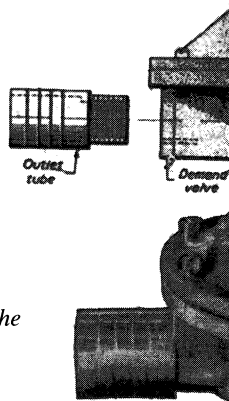


Fig 4. Connection for the inlet breathing tube.

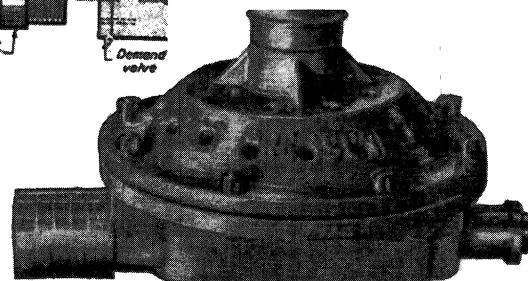


Fig. 5. Photograph of the completely modified low-pressure valve.

have to be replaced each time the final cylinder is sent away for refill or test. This is necessary because it would be impossible to fill the cylinder if there were a continuous leak through the jet seating. However when the complete aqualung is assembled the normally closed demand valve

efficiently with a good adhesive waterproof resin, for it will have to withstand water pressure of pounds per square inch without the slightest leak.

*End of part I, part II next issue.*

## VOICES FROM THE DEEP

By  
Leslie G. Jacobs

## Part II: Interview with Murray Black

In the last issue, Murray recalled his working relationship with the seasoned diver Charlie Isbell, which led to the founding of one of the pioneering deep water diving companies servicing the oil industry.

LJ: Was this close relationship with Charlie Isbell the beginning of Associated Divers?

MB: Yes, Charlie Isbell and I started Associated Divers, which was the first viable diving company in the oil business in California. It was just a loose amalgam of divers, except for Charlie and me; then we took in Smitty [Eldon Smith], and Woody Treen and Jerry Todd. A lot of them were ex-abalone divers. This [team] became very, very successful. We got an offshore oil job in Peru for the first underwater completions, which was very exciting. We were working out of Talara, for Richfield. Richfield had the greatest flexibility of any oil company there, because they were just a peanut company, very small. This was way before they joined up with Atlantic, and they were innova-

the bottom of the ocean floor, hook the pipeline into it, run the pipeline to the beach or some kind of gathering system and turn the well on. That's it. And I was in charge of the whole damn thing as far as the diving was concerned. That was so exciting. Again the job itself was very well paid, but I didn't do it for the money. I did it because I just loved it. It's almost akin to some of the blasting jobs that I get: where you have to figure out how to get it done and when you finally say, "Fire in the hole!" and it goes boom and the earth trembles and feathers fly all over the place and it makes a hell of a lot of noise and they pay you for it! I've been on some jobs where I'd have given them money to do the job!

LG: Sounds like all your experiences were snowballing into a very successful career.

MB: Do the very best job and the job will take care of you. That was always my philosophy and still is.

I got back to Santa Barbara after working down in Peru and went into the office. We had really grown by that time: Associated Divers had divers working everywhere. I went in the office and the phone rang and whoever was in the office answered. "No, we don't have anybody available right now, but we can try to find you somebody later on and send him over to you." The guy hung up and I said, "Who the hell was that?" The man said, "Some guy says he has a steamship down there and got a line in the wheel. We can't afford to mess around with a little job like that." I said, "What? You turned the job down?" The man said, "Yeah, it's not an overtime job, there's no depth pay on it, it's not worth doing." I said, "You bloody idiot. I resign. Right here and now." He said, "Aw, you're just saying that." And that was the end of my career with Associated Divers.

Barney Clancey was in the abalone business and he and I got together and formed Divcon. Again, right place, right time. All the circumstances came together, Barney believed in it and it was a going concern. I got an emergency call from Richfield in Tripoli, Libya. They said they needed a consultant. (Do you know what a consultant is? A consultant is a guy who knows 48 ways to make love but doesn't know any girls.) I gave them a figure which I was sure they were going to turn down, but they said, "Come on down!" So I went over to Tripoli. They were working offshore over there in the Sirte Gulf and they had a group of British divers that they'd brought in to do their work for them.

This British diving company had never worked in offshore oil before and they were a good bunch of guys. I



*Murry getting ready to dive for abalone  
off Santa Barbara, circa 1952*

tive. They could do things that no other oil company was doing. The chain of command was: Shall we do it? OK, let's do it! They were a delight to work for.

They came up with this job down in Peru for underwater completions. That's where you put the well-head on

hired a couple of them who eventually became big wheels in my company. But they didn't know their ass from a hot rock when it came to working in the oil patch. It wasn't that they couldn't learn, just that they'd never had any exposure to it. So, I got out on the barge and first thing I did was shut her down. I said, "I want all you guys to go to bed for 12 hours. I'll tell you when to get up." Their eyeballs were hanging out, they had one guy with the bends who felt like hell, and so on. They were just all worn out, fighting this job without any real plan. I shut everything down and then put things together and said, "Here's the program."

Two days later I had them drilling. Fine. So, I came in and made up a bill for them. I didn't leave any "T's" uncrossed or any "I's" un-dotted and I brought the bill to a guy named Lou Adair — tough son of a bitch. He was a "mustang," came up through the ranks. He started out as a roughneck and a roustabout and worked his way up to driller and then superintendent. Like the guys who make Admiral and General who start off as Seamen Deuces or Privates, he was tough. I came in with my bill and he said, "OK, no problem. When can you start the job? We want you to run this job for us, take it over." I said, "I've got a company back in California, I didn't come over to run this job for you." He said, "I don't care about that. Go back to your hotel and figure out a monthly contract cost."

It was a huge job, and I knew nothing about expenses over there. It was the first time I'd ever been in that area. I knew what airplane tickets cost because I had one in my hand but as far as personnel, housing, living expenses, cost of shipping equipment over, everything you would have to know, local taxes, and so on. It's not something you're going to learn just like that. Well, I'd done enough contractual work that I had a checklist of things that I knew had to be accounted for, so I went back to the hotel room and started checking off these things. Finally I came to a number. It's going to cost this much a month to operate with this number of personnel. I got it all done and I added 35% for me. I knew it was going to be outrageous and the guy would throw me out of his office. I took it down the next morning. Lou said, "Well, what have you got?" I pulled out 8 sheets of paper stapled together and handed it to him. He opened it up, looked at the lower right hand number on the last page and said, "When can you start." Just like that. And I had that contract for five or six years. Every month would kick off a clear, clean, neat profit. Beautiful job.

LJ: Did you ever get the bends?

MB: A dozen times. Remember, my total number of dives was something like 1,500 — that's recorded dives. It doesn't count bounce-diving or shallow water work, so it's probably up over 5,000 dives over the years. You develop a tolerance for nitrogen narcosis. But also when you come up to decompress, your central nervous system starts sending you signals. For example, you may have tendonitis or your vision may start going wobbly, you may feel a



1966: Murry and tender Jack Highley at Lowestoft, Suffolk, UK, preparing to inspect the dock area for suitability as a major staging area for salvage of the OCEAN PRINCE, the job was a "non-runner" because the PRINCE was destroyed in a North Sea gale.

tingling in the pit of your stomach or a niggle in your knee, or your elbow.

You learn to recognize all these signs as some kind of abnormality. You drop down ten feet and it takes care of itself. You know by how you feel. When you're not right, there can only be one thing: you've got a bubble somewhere you ain't supposed to have one. So you get rid of it. "Drop me down another ten feet." It's flying by the seat of your pants, but it kept us alive. We only had one chamber when we started out. Finally, when we got sophisticated we had a chamber at my house and then, of course, we had a chamber on every job we had. We didn't work without having a decompression chamber on the deck of the barge. But that was after a long time, it took quite a while to get to that point. So, we did our decompressing in the water.

When I was starting out, I would use any kind diving dress that I could fit into. Most of them were old Navy dresses, which are not very comfortable. They had patches all over the place and the cuffs had patches on patches. A

guy gave me a brand new Navy dress. I couldn't believe it. So, I took it out on the next job I had; I couldn't wait to get in the water in it. I'd been diving wet for so long that a completely dry dive would be wonderful! So I dressed in, got in the water, got down to about 50 feet and I felt something funny in my right knee. Then my left elbow. The dress was about 20 years old and had been left out in the sun. The twill and the rubber had separated and it was seeping water. So, I was hard-nosed — just a kid — I finished the job and by that time water was up to the level of the exhaust valve on the inside of the helmet. I came up and had about an hour and a half of decompression.

When I finally got out, I was probably within two degrees of hypothermia. I got to the surface and took a hot shower. I didn't feel real good, but I felt better. I got in the shore boat and went over to Gaviota pier, started walking down the pier and my leg quit. I knew what it was: it was the bends. But I had no intention of going back out and dressing into that leaky goddamn dress, getting back into the water and doing some more decompressing. There was no way! I got home and decompressed with a hot water bottle and a vibrating lounge chair.

Many years later I had to go in for an MRI, related to something else. After the MRI the doctor asked me where I left my wheelchair. I said, "What wheelchair?" He said, "You came in here in a wheelchair, didn't you?" I said, "I did not!" He said, "You can't walk on that leg! You've got bone necrosis in that leg so bad, it can't begin to support you!" Well, I'm like the bumblebee who doesn't know he can't fly because doesn't have enough wingspan to get off the ground. I've got bone necrosis in the right leg.

LJ: Ever lose a diver to the bends?

MB: We did have one, the only diver I've ever lost on a contract. We had a job down on Fernando Poo, that's at zero latitude, zero longitude, off the coast of Africa. Pretty deep water, about 180 feet. We needed another diver so we sent for one from New Orleans. He was just a kid, maybe 26 years old, but he seemed to have the qualifications for deepwater diving. I wasn't there.

They put him out on the job, dressed him in, told him what the job was and all the rest of it and he went down. He got to the bottom, started to work a little bit, and then he screamed. Then he passed out. No communication. Tried to pull him up but he was fouled on the bottom. So another diver went down and got him cleared of the cables he was fouled in, and brought him on deck. He was dead. We had to have an autopsy. We had to find out what had happened. Was it something he ate? The official autopsy report was that he died of fright. He saw something that scared him to death. Whether it was real, or whether it was in his head, it didn't matter. It was real to him. It was a horrible experience, that's for sure.

LJ: How long did you have Divcon?

MB: Well, while I was in Libya, I got in touch with



*Abalone diving off Santa Barbara in the Ram-Widolf mask. You can faintly see the crack down the middle of the glass.*

my partner, Barney Clancey, and I said we have a terrific contract in Libya. He said, "I don't want to go to Libya." So I bought him out. He didn't want to work overseas. It was not his intent to quit the abalone business and work offshore overseas. Divcon grew and grew and grew. About 1969, when International Utilities came along and bought me out they put more money on the barstool than I could count in three days and I retired.

LJ: I can't picture you retiring.

MB: I was 39 years old. I became idle rich. When International Utilities bought me out, we moved from Houston Texas to La Jolla California. We bought a mansion overlooking the ocean; I played bridge five or six times a week; my wife, Mag, was head of things like the Head-dress Ball and really important functions like that. At the end of two years she looked at me out the corner of her eye and said, "You know, I married you for better or for worse, but not for lunch. I don't care what you do, but go do it somewhere else." I'm going to tell you, when the highlight of your day is waiting for the mail to come and having a good bowel movement, you're in a world of trouble!

So, we bought a cattle ranch. To this day, and it was thirty years ago, I have no idea why we bought a cattle ranch. But we bought a cattle ranch and we became cow-punchers, way out in the middle of nowhere. Two thousand gorgeous acres inland from San Diego, but with no plan, no nothing! We had negative cash flow for twenty-four months in a row. The whole thing was so preposterous. The mistakes we make two by two are paid for, one



by one. And I paid for that little mother!

Then along came Karl Bauer and the blasting job in Jacksonville. I sold the cattle ranch, moved to Jacksonville and my business took off like a rocket. And Mag's career took off at the same time. We were living in Newport Beach, California, when I got a call from Karl Bauer who had a company in Florida. He said, "I got a dredging contract on the St. Johns River and I ran into a rock ledge that wasn't in the script. I can't move it. I've been digging at it and pounding on it and tearing up my dredge. I need somebody to come out and blast it," and I said, "Okie-doke." I gave him a daily rate because I had no idea of the size of the job and neither did he.

We went out and I rigged up and got a drill barge together, cabbaged together a crew to shoot it, got the blasting machines, got the powder, got everything. Took me longer to mobilize than it took me to do the job. The job only lasted about three weeks and he was so delighted, he was beside himself. He said, "Boy, I'm looking at dredging the St. Johns River, seven miles of river." Big job, all underlying rock. They were going to take it from 38 feet to 42 feet and it had to be blasted all the way. So we joint ventured it, got the job and it was a spectacular success. One contract led to another.

I got a job in Lake Erie shooting a trench out in the middle of the lake in January-February-March. I don't know how much money I made on it, but whatever it was it wasn't enough. My God — that wind blowing across that lake in wintertime, ice all over everything and you're out in the weather all the time. So, I was out there thinking I should have taken up something indoors, and I got a call from Jacksonville again — they had a big bridge going in and were constructing a main pier for the bridge. So, I came back to Jacksonville and they showed me the plans and asked how much it would cost. I asked who else was bidding on the job and they said, "Nobody. We've heard of you, we've heard of your work and we know you get along with the Corps of Engineers who are in charge of the entire program in navigable waters. We know you're a safe guy because we checked on your safety records and we know you're competent."

I went in and looked at the job. It was pretty deep drilling, we had to go down to 72 feet of solid rock. I figured it would take about 90 days to do the job, adding little fudge factors here and there. So I bid it on 90 days. It was one of those jobs where you had no personnel problems, you had no delivery problems with your explosives, you had no weather problems and no supply problems. That happens like once every hundred jobs. So instead of 90 days, the job was over in 37 days. I finished on a Thursday and I went into the contractor's office and said, "Go dig this rock out of there." They said, "We want to see you on Monday morning." I thought they were going to get me for excess profits. So, I showed up Monday morning and they said,



1964: Murray and drilling superintendent Cliff Banks on the drill ship GLOMAR V, Tripoli, Libya. When attempting to fasten the riser pipe into the top of the blowout preventer, the top joint broke loose and the entire assembly was spread out on the bottom of the Sirte Gulf. Murray, Gene Gallagher and Walt Thompson recovered the pipe in depths that ranged between 260' and 525'. This was a commercial deep diving job, surface oriented, no submersible diving chamber, using experimental decompression tables and breathing mixture. The deepest dives (525') set a world record.

"You know what, Murray? By finishing this job in 37 days, you have saved us about two months of work on this bridge, which is far more than your job ever cost. We'd like to bonus you." I said, "No, you're not going to do that. The bonus is in the job itself."

LJ: Any comments about the future of commercial diving?

MB: I get calls almost every week from divers who want jobs. There are way more divers now than there are jobs for them to do. The deepwater end of this thing, and I predicted it was going to happen 30 years ago, divers are going to be phased out. The diver does not belong in deep water. It does not make economic sense, it's not safe, and it's not efficient. If you look at the latest issues of the diving magazines, it's all about ROVs and that's the end of that story. They're developing the techniques all the time. It's all going to be manipulators in 1500 feet, 2000 feet of water. What's a man going to do at that depth? There are

not that many new jobs opening up, and they are replacing divers with machines. We went through the Golden Age, where we made our own rules and our own equipment and our own tables and our own mixes and the whole thing. The Golden Age is over with.

LJ: How would you sum up your philosophy for successful living?

MB: There are five steps to being fulfilled, successful and happy. Number 1: You do what you want to do. A lot of people do what they feel they have to do. By circumstance they're forced to do something else, and those aren't real reasons; those are just excuses for not doing what you want to do. Number 2: You've got to be good at it. A lot of people are doing what they want to do and

they're second rate. They should pick something they can win at. Otherwise you just lead a life of quiet frustration and it's awful. Number 3: There's got to be a need for it. No use being the best wagon-wheel maker in Butte, Montana - you make four wagon wheels, you've flooded the market for ten years! Number 4: You've got to recognize the opportunity. Aye, there's the rub! A lot of people wouldn't recognize opportunity if you hit them in the face with it. The opportunities are there every day. And of course, number 5 is the big one: You have to have the guts to take advantage of the opportunity. I've lived by that.



*1963: Santa Barbara. First HeO<sub>2</sub> manifold and 'Hats' made for Divcon.*

*Standing: Hughey Hobbs, Jiggs Jackson, & Murray Black*

*Kneeling: Gene Mogis, Bud Swain, Walt Thompson and Barney Clancy*

We salute The Historical Diving Society and its members  
for preserving the legacy of the diving industry.



**OCEANIC®**

Inventing The Freedom Of Diving

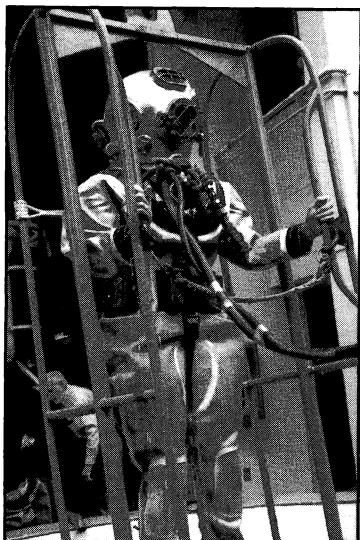
[www.OceanicWorldWide.com](http://www.OceanicWorldWide.com)

2002 Davis Street • San Leandro, CA • 94577 • (510) 562-0500

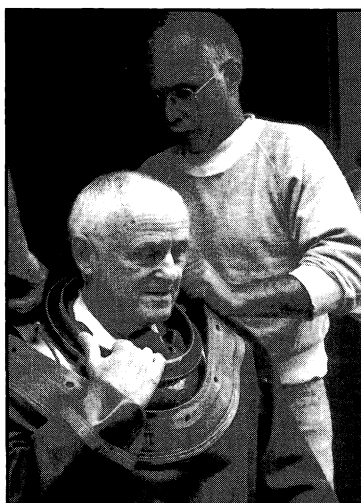
## Santa Barbara City College Hosts Heavy Gear Workshop

JULY 13 - 15, 2001

Story and photos by Leslie Jacobs



*Mk V diver on stage*



*Mark Howell dresses in Bill Huffman*

A dedicated group of historical diving enthusiasts recently had the opportunity to spend an informative and educational weekend with the California Central Coast Working Equipment Group at the heavy gear workshop held at the Marine Diving Technology Department (MDTD) of Santa Barbara City College (SBCC).

Don Barthelmess, Director of the MDTD-SBCC hosted the workshop which featured professional divers Bob Kirby, Bob Christiansen, Scrap Lundy, Dr. Hugh Greer, and HDS-USA co-founder Skip Dunham as course instructors. These experts shared their knowledge with divers who came from as far as Louisiana, Texas and Alabama to obtain this unique first hand experience.

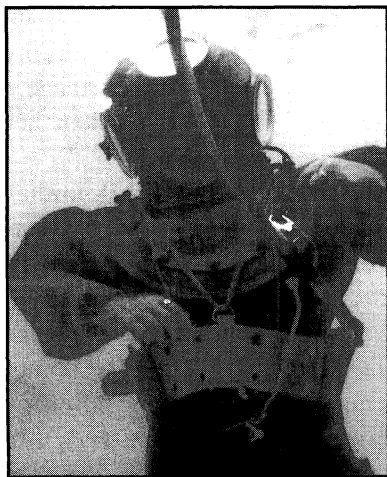
Friday's session was spent in the classroom covering topics such as the U.S. Navy Mark V helmet system, the Kirby Morgan air helmet system, decompression sickness, and the U.S. Navy Diving manual. An overview of the unique history and procedures associated with deep-sea diving in heavy gear was also presented. This included open question and answer spots where attendees could contribute information to the subject.

On Saturday morning everyone gathered at the MDTD's two dive tanks. The class broke up into two teams; half assigned to the Navy Mk V team and the other half assigned to the Kirby helmet team. These teams swapped helmets at mid-day thereby providing each team with a half a day's experience working with each different helmet system. A spirit of competition was soon in the air to see who could dress in and get wet first.

On Sunday morning, students took turns operating the single cylinder hand-pump while others went for chamber rides. This produced a great deal of laughter because at 120 feet, grown men sound like Munchkins from the Wizard of Oz!

Santa Barbara City College's world-renown Marine Diving Technology Department was an ideal spot for this course, which promises to become a favorite among new and experienced divers wishing to learn about their heavy gear heritage. Attendees included Jeff and Carla Wade, Eric Hessel, Dennis Weldy, Red Lerille, Russell Potocki, Walt McGregor, Mark Howell, Alvarez C. Perez, Charlie Orr, William Drake, Rick Eriksen, Brian Koneval, Jocko Robinson, Bill Huffman, Richard Lowe, Eva Trusty, and William Gronvold. Several other divers also assisted with the class.

For information on upcoming courses contact Don Barthelmess at 805-965-0581, ext. 2427.

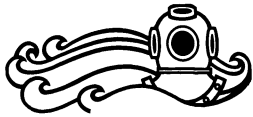


*Eva Trusty in a Kirby air hat*



*Divers and instructors*

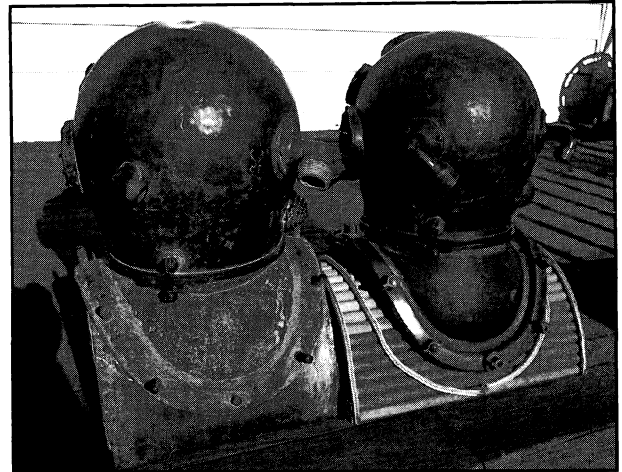
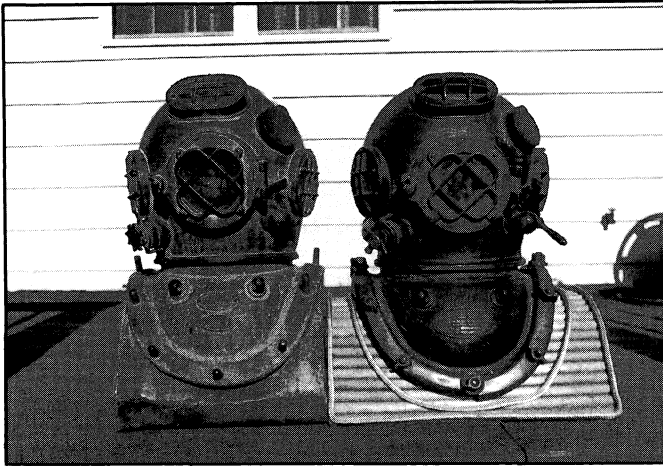
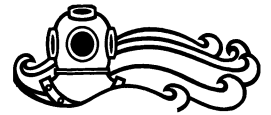
\*\*\*\*\*



# Helmets of the Deep

Early Morse Mark V

by Ray Mathieson



*(L to R in all photos) Morse Mark V, serial #2211 and Morse Mark V serial #2374, dated 11-2-17. (November 2, 1917) Photos courtesy Ray Mathieson*

In HDM issue 1, the Mark V column noted some of the early Mark V helmets. I have an authentic Morse Mk V made in 1916, serial number 2211, that has been confirmed by Ken Downey at Morse Diving. The helmet has seen better days, but I believe it offers some insight to the transitional phases of the Mk V. I purchased the helmet sight unseen after the seller sent it to Morse, where Mr. Downey reattached the communication elbow that had come off. He used three brass rivets, which was not in keeping with the original method of attachment. Other than the reattachment, which was nicely done, no other repairs were made. I compared this 1916 model with a 1917 one and was able to make the following observations.

**Copper.** The thickness of the copper used to form the bonnet and breastplate is .0065" thickness, which is consistent with Mk V's through to 1918. There are bad cracks in the helmet. Taking into account that the brails and wing nuts are missing, the 1916 helmet is 4 lbs lighter than the 1917. The reason for this will be clear as you read on.

**Breastplate.** The breastplate of the 1916 is about 3/8" lower overall than the 1917, 1918 and 1919 Morse Mark V. A comparison of the breastplate reveals almost exact measurements from front to rear, side to side, stud to stud, and eyelet to eyelet. Under the neck rings of the 1916 a formed seam can be seen that's not found on later Mk V's. This crimping measures 9/10" at the highest points. The elongated breastplate stud for screwing an air control valve is one stud higher than the 1917 and all others.

**In the front and rear.** On the 1916 helmet the upper and lower neck rings are clearly stamped "2211." There is also a #14 stamped in the lower neck ring. I make no assumptions about this. The 1916 neck rings are substan-

tially thinner by all measurements, and much weaker. The lower locking device was soldered on to the neck ring, whereas on the 1917 and 1918, this part was part of the lower neck ring casting. There is no swinging gate or lever on the locking ball mechanism. The same is true on the 1917 helmet.

**Name tags.** The 1916 has two tags. The top one is the standard commercial tag that reads "A. J. Morse & Son, Inc. Boston, Mass." The second tag, which is also oval, simply reads MARK V. This tag measures 2.2" wide by 1" at the highest point.

**Port guards.** The top and side window guards on the 1916 are much thinner. They are almost flush with the windows. The top guard is identical to the ones Morse used for the fourth light on the early five-bolt helmets. I've not seen any other helmet with these same side guards. The face plate guard is the only one that did not change by 1917. The 1916 helmet has one side guard bent in, and a badly cracked window. I doubt this window damage would have happened had the heavier side guards taken the same blow.

**Inlet elbows.** The Mark V serial #2178 in the 1916 manual has the air and communications inlets reversed from the positions used today. They are also pointed straight down 180 degrees. Helmet #2211 has these elbows reversed as well. However, looking at the rear of the helmet, the communication elbow would be pointing to 225 degrees, and the air inlet to 135 degrees. Both air and communications elbows on the 1916 are very different configurations. The air inlet is considerably smaller and the communications elbow is squared off.





**Other details.** The spitcock on the 1916 is missing the handle that screws in. The 1917 Morse #2374 has the same type screw in handle. All of the 1918 Morse Mk V's that I've seen have a one piece handle and valve. Serial #2211 has retained its original 8 point exhaust and its communications speaker. The chin button measures 1.4" across, and has a coined edge. The communications cup has "Pat. Dec. 20, 1898" stamped on the outside. The dimensions are identical to other Mk V cups, however this one does not protrude outwards as far.

On serial #2211, the top light was installed noticeably crooked. Being as I consider this a prototype I don't find that unusual. The face plate hinge pin on the 1916 is about 3/8" shorter than the 1917, 1918 and 1919's. To date, these are the variations that I observed.

## Morse Diving



Since 1837

Supporting the work of the Historical Diving Society



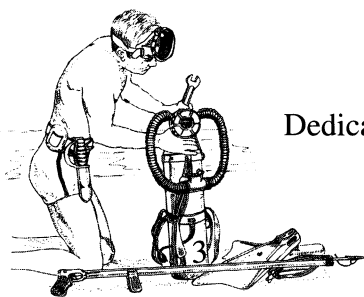
Telephone: 781-871-7772 or 781-871-7764

Toll-Free: 1-877-87-MORSE (66773)

Fax: 781-871-9395

[www.morsediving.com](http://www.morsediving.com) — Email: [morse@channel1.com](mailto:morse@channel1.com)

199 Weymouth St., Rockland, Mass 02370



Project Three

### Scott Hydro-Pak full face mask scuba (Part One)

Founded by Earle M. Scott in 1932, Scott Aviation Corporation of Lancaster, New York, remains the oldest company in the U.S. to have designed and produced scuba units (Desco was founded in 1937). The Scott Hydro-Pak full-face mask scuba featured innovations that included a single hose regulator, a tilt valve second stage and purge button, a snorkel/surface vent system and a regulated exhaust valve. The first stage regulator featured a manual reserve system and the tank harness featured a cam actuated tank band and a breakaway shoulder harness. Some of these features, borrowed from Scott's Air-Pak, were ten years ahead of their time. We acknowledge that a few features may have originated from Desco's Dolphin Lung and actively seek help in determining dates between Scott and Desco's units.

To understand how advanced this system was, Phil Nuytten, of HDS Canada, tells of a friend who removed the second stage from his mask, added a mouthpiece and had himself a neat single hose regulator. With the fairly large supply hose (Aeroquip - 6 or 3/8" I.D.), large area tilt valve and large 3 1/4" diameter diaphragm, this would make a fairly advanced regulator for its day. It preceded Sportways Waterlung by as much as five years.

Flight crew oxygen masks and "walk around" oxygen bottles led to the firefighter's Air-Pak in 1945, and it didn't take long for firemen to use the Air-Pak underwater. A Scott document, discovered in HDS founder Leslie Leaney's archives and titled, *Instructions For Underwater Use Of Scott Air Pak*, was issued in December of 1946. It detailed a way of swimming underwater with the Air-pak in an emergency. After testing the Air-Pak underwater, the Royal Canadian Navy asked Scott to design a scuba based on that unit in 1950. The Hydro-Pak was delivered to the U.S. Navy in late 1952 and reached civilian markets by early 1953. Scott ended production in the 1961-62 era. In 1965 I wrote to Scott looking for a Hydro-Pak manual, and was directed to Rose Aviation, makers of the Rose

## SCUBA WORKSHOP

### EDUCATION THROUGH PRESERVATION

Dedicated to the preservation and restoration of our scuba equipment heritage.

by Kent Rockwell

Pro single hose regulator. Rose Aviation took over parts and service and we still have those "PRO Hydro-Pak" sheets.

Fortunately we have not one, but four, Scotts to work with. They include an early Hydro-Pak mask, a very late mask overhauled by Scott, a rare twin tank unit and rarer U.S. Navy single tank Scott. All of our rubber pieces were found to be in excellent condition and still quite usable revealing that even in the 50's quality rubber could be made. The metal parts are either stainless steel or very heavy chrome plated brass. Called the "Cadillac" of diving lungs, a 1958 Scott Hydro-Pak sold for \$250.00 while a comparable Northill Air-Lung sold for \$160.00.

Several years ago we talked with John Barone, of Scott Aviation and learned that Scott had nothing in their archives to reflect their diving heritage. No parts, no drawings and no literature remained. Fortunately, John had begun his career at Scott refurbishing customers' Hydro-Paks and was the first person to contribute to Scuba Workshop, sending us his personal H-46 manual and a Hydro-Pak introductory brochure. John has remained supportive and interested in this column and later mentioned that Scott Aviation would like to display a Hydro-Pak should any member have one they are willing to loan.

Once again we looked to Fred M. Roberts's book *Basic Scuba* for Hydro-Pak instructions and drawings. HDS members Dan Barringer, Al Betters, Skip Dunham, and Mark Howell supplied copies or originals of the *Scott Hydro-Pak Instructions and Parts Catalog Handbook H-46*, the *NAVSHIPS H-48 Technical Manual* and old *Skin Diver Magazines* provided an article and advertisements.

We purchased another plastic parts box from Home Depot, assembled our tools and began dissecting the Hydro-Pak. Do follow along with your *Scott H-46 Manual* and become familiar with the parts and their names as we prep our Hydro-Pak. It goes without saying that you should read this entire article before starting on your Scott.

The full-face mask features a round, 5 1/2" diameter laminated safety glass lens of 1/4" thickness. As our Navy lens was broken we ventured to a local auto glass shop and had an identical lens manufactured for \$15.00. The stainless steel lens frame clamp will give you a good idea as to the age of your Hydro-Pak. The early models featured two soldered on lugs for the clamping screw, while mid-production and late models (1956-61) used stamped brackets held



on by spot welding and later, bent tabs as well as spot-welding. Navy units featured bent tab brackets with silver soldering. These changes appear necessary as both our early and mid bands had the attach pieces broken loose.

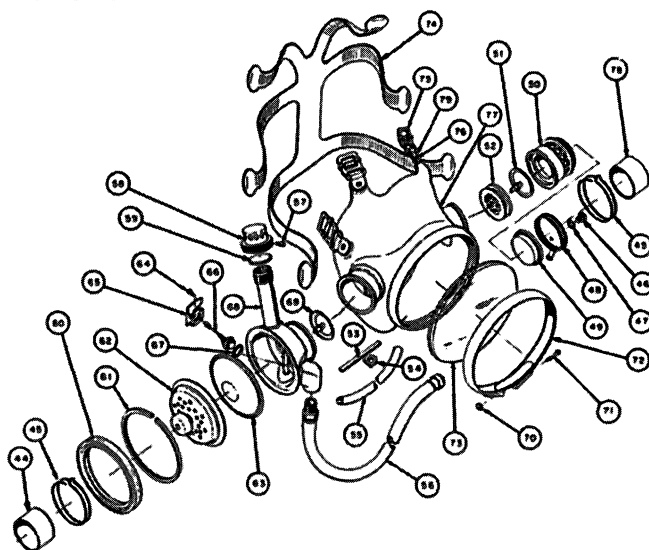
The rubber mask body appears to have undergone only two mold changes. The early mask featured a short curved emergency, air-inlet port protruding from the mask just below the regulator on the right hand side. It also had soft rubber that can be seen extruding from under the lens band in early photos.

The second generation deleted the emergency port and lengthened the check valve deflector (right inside port) from 3/4" to 1 1/2," and added raised letters, Scott Hydro-Pak LANCASTER, N.Y. U.S.A., on the top left of the mask skirt. The check valve deflector directs incoming air onto the glass lens to help with defogging. The buckle design changed, with the majority using alligator tooth sliders while late masks feature rollers, no teeth and a "D" ring at the two bottom buckles. The head harness, from Scott's Air-Pak, had elliptical strap ends on the early models while all later ones used the arrowhead design and a slightly thicker molding.

The second stage regulator and exhaust valve are mounted to the sides of the mask on rubber spigots and secured by monel wire clamps covered with a heavy rubber band. These clamps proved difficult to work with so Scott used 9 mm wide Oetiker band clamps on our factory refurbished (in 1973) mask.

The stainless regulator cover and body are held together by a large rubber guard ring slipped over a thin stainless ring clamp for ease of servicing. Pry both rings off by hand, remove the cover and the diaphragm and inspect the simple tilt valve, the inhalation check valve and the air "economiser" snorkel. To remove the tilt valve you must first remove the stainless deflector by bending its leaves out of the way and removing its four screws. If the tilt valve is stuck in place use a bent tipped cotter pin removal tool (Snap-on CP-3A) with a rounded point to pop the valve out from below (you will need to remove the air supply hose). You should inspect the rubber-covered tip of the tilt valve paying close attention to its inside flat sealing surface and the stainless seat interface. Do not disassemble the valve further unless you want real problems. The short snorkel is used for surface breathing while you fasten the mask or wait on the surface. It is too short to work as an effective snorkel for swimming, though this can be done if you're careful. Should you leave the valve open on top of the snorkel the

## HYDRO-PAK MASK & DEMAND REGULATOR



regulator will simply free flow until you screw the cap down. This can be seen to good effect, as well as a lot of Hydro-Pak diving, in the movie **Revenge of the Creature** (from the Black Lagoon, 1954) available at most video stores.

The unique regulator exhaust system was necessary because of the exhaust location on the opposite side of the mask. By turning on your right side (note: the manual incorrectly says left) the lowered demand regulator sees more hydrostatic pressure

than the higher exhaust valve and the mask will free flow. However, with Scott's system a balance tube feeds this higher pressure to the small exhaust diaphragm effectively closing off the exhaust port and preventing air loss. On the majority of units the chrome plated exhalation body has 17 holes of 1/4" diameter for exhausting air while the very late units have 3 milled slots 1/8" wide by 1 1/8" long. The drain plug on the exhaust cover threads into a rectangular block on early units and a round block for the rest of the models.

We washed, air-dried and powdered all the rubber parts using talc from a gymnasium supply (use no silicon spray, please). Be sure to clean the low pressure hoses inside as well but only talc the outsides (note: we talc all the rubber bits for storage but clean everything before testing in the pool as the powder is not good to breathe). The steel pieces are given a quick soak in 50-50 vinegar and distilled water mix. Remember, the vinegar, already at a 5% acid strength, must still be cut by 50%.

Reassemble the mask in reverse order using the factory *Instructions and Parts Catalog Scott Hydro-Pak Handbook No. H-46*. If you use Teflon tape on the hose to regulator fitting, as does the factory, be sure to keep the first few threads clear of tape to prevent a strand of tape from entering the system. Even a small piece of tape will cause the tilt valve to leak. On the first stage, the hose end meets a standard JIC 90-degree elbow fitting with a tapered cone seat, and needs no tape between the two. We chose the Oetiker hose clamps for mounting the regulators and discarded the covers during retrofit.

In our part two of the Scott Hydro-Pak we will examine the first stage regulator and tank valve(s), the unique backpack, and test our system under pressure.

*More information on this article can be found on our home page link at [www.hds.org](http://www.hds.org). For a copy of the Scott H-46 manual contact the author at [KRSEAHUNT@AOL.COM](mailto:KRSEAHUNT@AOL.COM)*

# With sketchbook and diving-bell

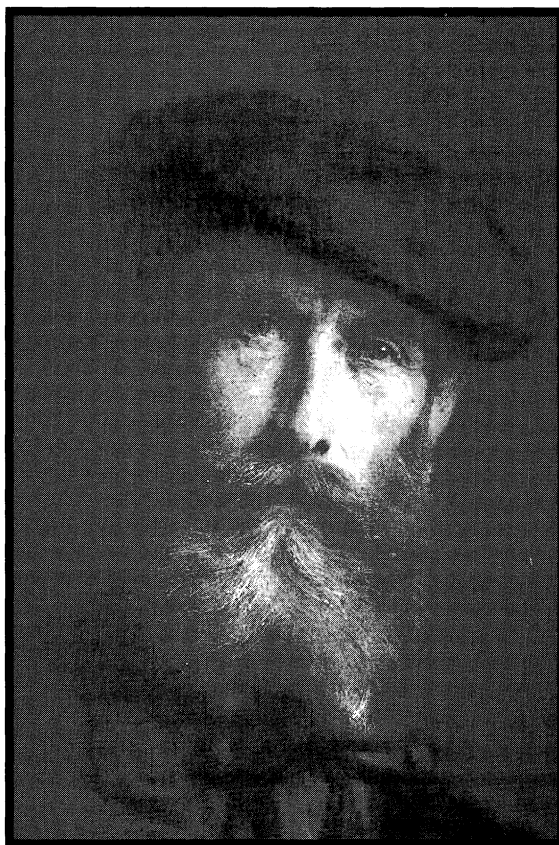
## A Viennese painter underwater

By Stefanie Kruspel and Andreas Hantschk

Audio visual presentations on film and television bring the colorful images from the underwater world to us today. But before these technologies became part of everyday life, there were pioneering artists who tried to capture this unique environment by the traditional method of painting. One of these was Eugen von Ransonnét-Villez, who was a diplomat, painter, lithographer and explorer. To him goes the honor of being the first authentic underwater oil-painter in the history of science and art, and his unique work can be admired today in the Museum of Natural History in Vienna.

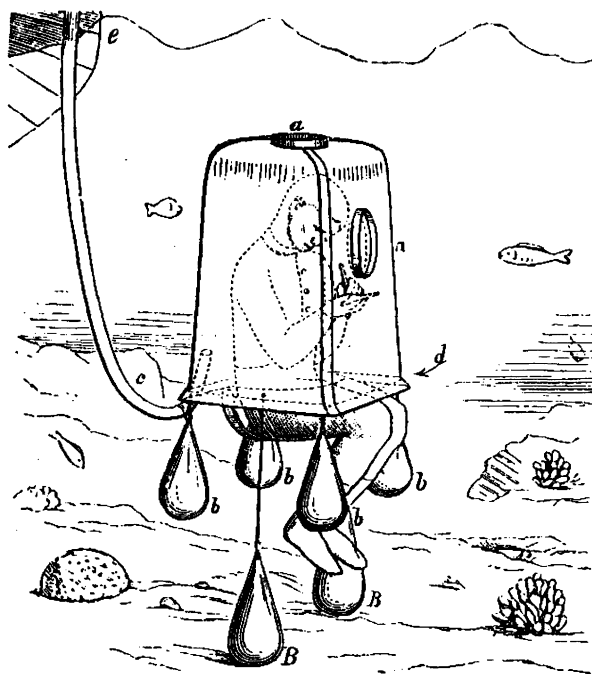
Underwater painting has long been a subject of passionate interest among an eccentric minority. In this modern age of high quality cameras that can take perfect underwater pictures, it may seem to be a very antiquated art form. Among dedicated diving historians, Walter "Zarh" Pritchard, an Irishman born in India, is considered to be the first underwater painter. Pritchard completed a considerable number of underwater paintings in the first two decades of the 20th century. Like a traditional landscape painter, he sat for hours at his easel, wearing the diving-helmet usual for that period, and using special paints and canvases which were fully exposed to the water. Known as "The Merman," Pritchard did, however, have a predecessor who was already capturing underwater scenes. This was Baron Eugen von Ransonnét-Villez (1838-1926), who was born in Vienna, Austria. He started producing images in an impressive manner around 1860, and fully deserves to be acknowledged as the first known underwater painter. Research into the life story of this scintillating personality is now being carried out at the Museum of Natural History in Vienna on the initiative of its enthusiastic Director General, Bernd Loetsch.

When Eugen von Ransonnét opened the iron windows of his self-designed diving-bell, he had a totally unobstructed view of the sea's expanse for the first time. He did this in the waters of Ceylon (now Sri Lanka), and an



*Eugen von Ransonnét-Villez (self-portrait)*

unknown, mysterious, fairy-tale world lay before him. "The underwater landscape gradually lit up, and in the shimmering, emerald-green light, illuminated by the sun, there stretched out before me the sandy seabed, on which the gleam from the playful waves created an interweaving pattern of colorful bands of light. Here and there, individual groups of coral were growing on stones in the sand, and a reddish shadow in the distance signaled the area where a twenty foot high and five to six foot thick block of Madreporaria (stony corals) rose up from the depths in a fantastic shape. ...eagerly I stretched out my hand towards a coral, but could not touch it, just like a child who tries to grasp things beyond its reach, because in the water everything



*The diving-bell devised by Eugen von Ransonnét: weighed down with lead weights and with an air tube connected to the boat*

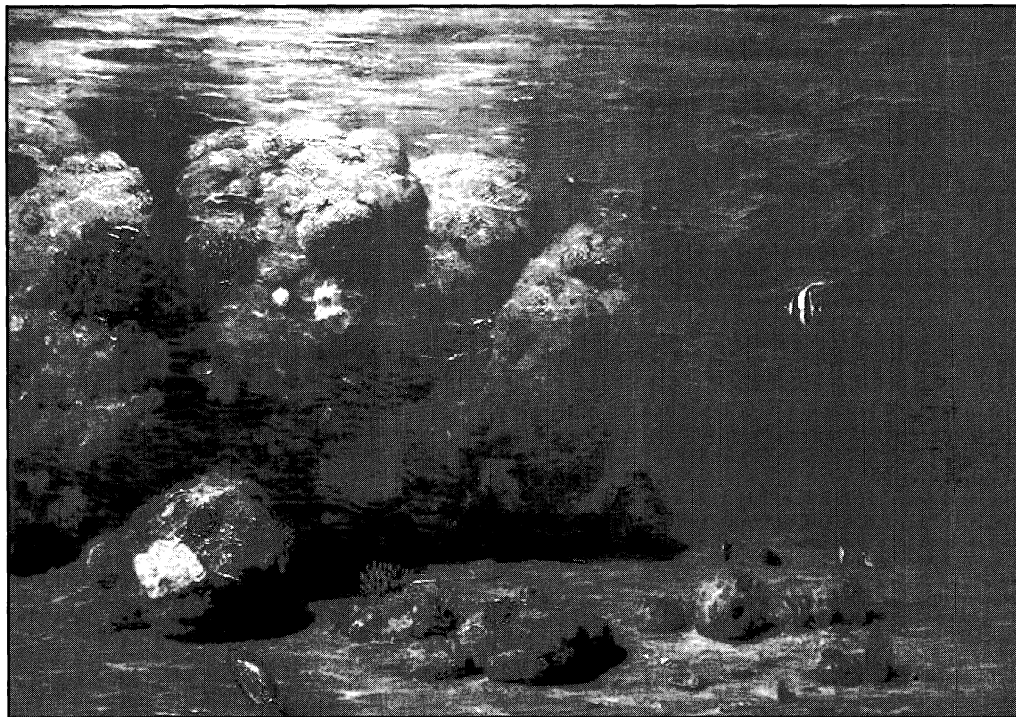


seems to be so deceptively near and, at the same time, smaller, so that one's normal sense of distance and size is completely lost. One therefore soon realizes that in the depths of the ocean one must not only learn how to move, but how to see and hear as well."

In his enthusiasm for everything unknown, Ransonnet was a typical man of his time. He came from an Austrian family of civil servants. His father, Karl von Ransonnet, was Vice-President of the High Court of Auditors and provided his son with a comprehensive academic education. By the age of 11, Eugen was already a student at the Academy of Fine Arts. After completing his studies there, he went on to study law, and in 1858 became an official in the Imperial Ministry of Foreign Affairs, a post that very much suited his urge to discover new things. Whenever the opportunity offered itself, Ransonnet would travel to distant lands, where he would paint and collect natural history specimens. He later left many of these specimens to the Natural History Museum, where they are still housed today.

In the 19th century, to travel meant adventure, and, above all, exertion. Only someone with an iron constitution and irrepressible optimism had a chance of surviving the hardship of a long journey. Almost every large expedition claimed its victims. Dangerous diseases and the hot climate of tropical regions cost many globetrotters their health and some even their lives. But Ransonnet not only had a strong constitution, he also had a healthy optimism, as well as an intense thirst for knowledge, which allowed him to overcome all adversities. After strenuous days collecting specimens, no cuisine could be so strange or meager that he was not able to relish it. "One greatly enjoys eating the underbaked slices of bread, the rice and the dates, and swigs cup after cup of bad coffee with pleasure. Even the lukewarm, slightly sulphurous water out of the large clay pots seems to be tolerable."

In 1862, wishing to learn Arabic and intending to explore the Red Sea, Ransonnet traveled through Palestine, Upper Egypt and Arabia. In Tor he collected corals and other sea animals and sketched the underwater landscape from his boat. He transported his valuable collection of natural history specimens through the desert on the back of a camel and from Suez to Vienna by ship



*Ransonnet's underwater paintings: painted from sketches made in the diving-bell*



*Underwater landscape of the Gulf of Kvarner: from a crayon drawing by Ransonnet*



and train. After this journey the adventurer published a comprehensive report which contained his first two lithographs of underwater scenes. These works met high scientific standards. Ransonnet had found all the sea animals he depicted in one and the same place and accompanying notes provided information on the precise names, existence and way of life of the organisms.

About two years later, in 1864-65, Ransonnet undertook a journey to India and Ceylon. Again he wanted to study the underwater world more closely. For this purpose, he had a diving-bell made and carried out his first trials with this in Ceylon. At first the new technique almost cost the daring baron his life. After a few days practising with his diving apparatus, he walked around on the seabed at a depth of between 5 and 7 metres. Air was provided by means of a pump and a tube coming from a boat.

Sitting in his bell, Ransonnet was able for the first time to observe the world underwater undisturbed for some length of time and to capture it in sketches on the spot. On the basis of these drawings Ransonnet created four underwater lithographs which he again published together with a report on his journey, as well as many portrayals of the exotic scenery and people. In contrast to the first two underwater scenes from Tor, the four illustrations from Ceylon are much more realistic. Above all, Ransonnet depicts the effects of light and shade much more naturally. The underwater painting which is in the Natural History Museum is also derived from sketches that Ransonnet made in his diving-bell. Looking at this masterpiece, the world-renowned diving pioneer Hans Hass felt that it cap-



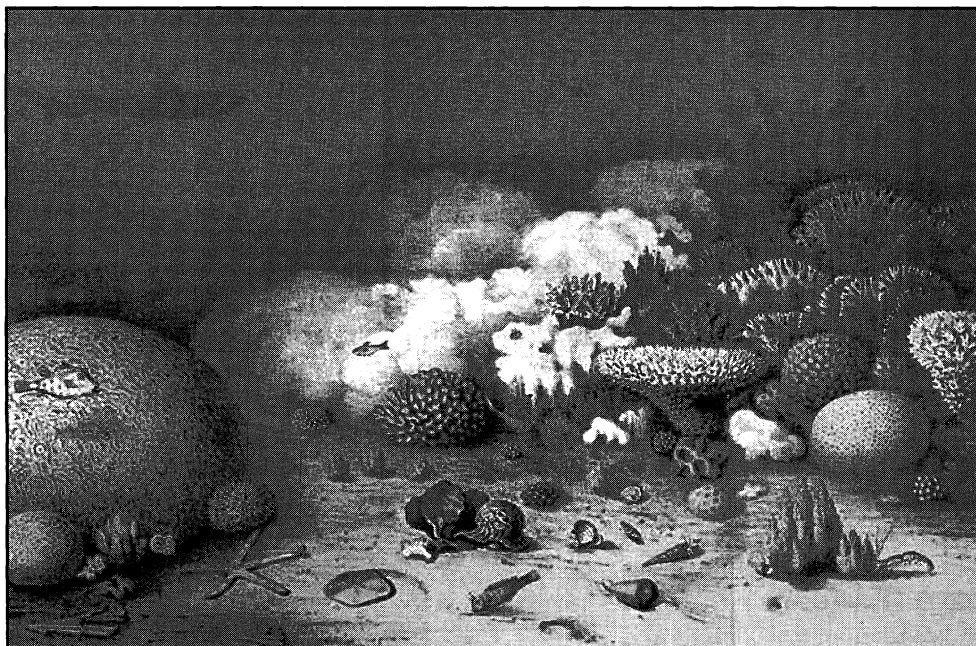
*The meeting founding the first sailing club at the Attersee: the "Capsize Crew," with Ransonnet (second from right)*

tured the feeling of being under water far better than modern underwater photography.

Based on Ransonnet's sketches and detailed descriptions, a replica of his diving bell was made in 1998, and we tested it in the Adriatic Sea at Opatija. It functioned perfectly, even if we could not completely do without the assistance of modern diving equipment during our first trials. As well as the necessary degree of sporting spirit, Ransonnet must have had considerable skill and some practice to be able to walk under water and to draw inside such a diving-bell. All the same he still needed about 400 kilos of balancing weights which he distributed in four large, and two small, jute sacks.

We chose Opatija (formerly Abbazia) as the place for our trials because it was in this once elegant town of the Danube Monarchy that Ransonnet had a splendid villa built as his holiday home. Through the initiative of a Croatian business-man, this magnificent building was saved from destruction at the last minute and survives today in all its old brilliance. In a beautiful book produced by Crown Prince Rudolf there are two more underwater paintings by Ransonnet showing views of the Dalmatian Coast and the Gulf of Kvarner. This proves that even in his later years Ransonnet retained his love for underwater painting.

Eugen von Ransonnet spent his last years with his wife Agathe von Geymueller



*A group of corals in the harbour of Tor: Ransonnet's first underwater lithograph*

and their three daughters in his villa in Nussdorf on the Attersee. This very beautiful house stands a little outside the village, surrounded by tall, old trees. A sunny garden with exotic plants and small paths stretches down to the stony bank of the Attersee. Ransonnet, who was by no means an eccentric loner but a sociable sportsman, founded the first sailing club here on the Attersee with the name "Kenter-Crew" (Capsize Crew). Today the house serves as a seminary for the diocese of Linz. Inside the villa there are still hanging a number of Ransonnet's oil paintings, pictures from foreign countries, oriental cities and the sea. Ransonnet's artistic legacy now belongs to the diocese of Linz. An abundance of landscapes, portraits of foreign people, as well as some drawings of nudes are in the Linz archives; some further works are in private ownership.

When Eugen von Ransonnet died in 1926 at the age of 88, the world was no longer the one he had known. He experienced the decline of the Austro-Hungarian Monarchy and, thanks to his considerable wealth, was little affected by the chaotic events of the First Republic. He was spared the catastrophes that were to come in Europe. A picturesque footpath along the bank of the Attersee, the "Ransonnet Promenade," and a simple, wrought-iron cross in the Nussdorf cemetery are all that is left today to remind us of Baron Eugen von Ransonnet-Ville, the first underwater painter.

Ransonnet's "successor," the underwater painter Walter "Zarh" Pritchard, spent his last years in sunny California and only died there in 1956 at the ripe age of 90. Does perhaps the eccentric hobby of underwater painting actually have the effect of prolonging life?

#### Literature:

Burgess, T.: *Take Me Under the Sea. The Dream Merchants of the Deep.* The Ocean Archives, Salem, 1994.

Ransonnet, E.v.: *Reise von Kairo nach Tor zu den Korallenbaenken des Rothen Meeres.* Wien, 1863.

-, -: Ceylon. Braunschweig, 1868.

#### Note:

*This article was first published in the German DIVEMASTER-magazine 01/2000. Translation and reprint with permission by Michal Jung, Editor of DIVEMASTER.*



**Bob Evans brings you  
the finest fins.**



**Find the fin that's  
perfect for you at...**

**[www.forcefin.com](http://www.forcefin.com)**

Bob Evans Designs, Inc., 715 Kimball, Santa Barbara, CA 93103 USA  
Phone: (805)966-9628; Fax: (805)564-8240; e-mail: [info@forcefin.com](mailto:info@forcefin.com)



**FORCE FIN**

*A proud sponsor  
of Historical Diver*




# The loss and salvage of the treasure from the HAMILLA MITCHELL

by Bryan F. Dillon

A story of a sunken sailing ship, laden with silver specie. Of brass-helmeted standard gear divers braving the depths to reclaim the treasure. A pirate attack to steal the treasure and a race through the night to escape. Hollywood script? Boy's Own adventure story? No! A true story from diving history.

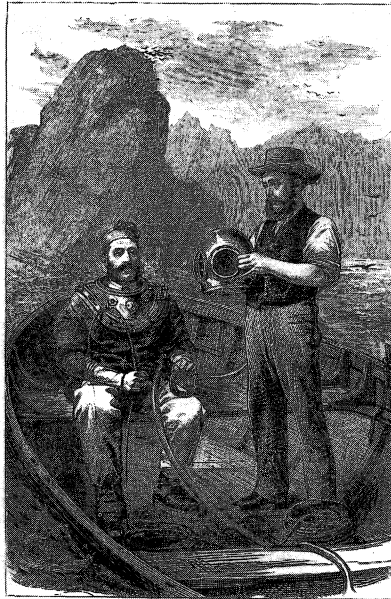
In August 1869, due to foul weather, winds and tides, the sailing vessel HAMILLA MITCHELL ran onto the Leuconna Reef near the port of Shanghai, China, in a position adjacent to the Leuconna Rock itself.

The local Lloyds agent was quickly on the scene to review if salvage was possible. He reported that the vessel, following its initial sinking, had slid backwards down the reef into far deeper water varying in depth between 130 and 160 feet. With the combined problems of the depths involved and the exposed location he declared that it would render any salvage attempt useless and that the silver specie should be considered forever lost unto the depths. As always though, as quickly as the story of a lost fortune made its way through the tabloids of the day, entrepreneurs from all walks of life took an interest in the booty lying at the bottom of the China Seas - 50,000 pounds in silver Mexican Dollars. A fortune to make a Gentleman!

One such Gentleman was a sea captain by the name of Captain Lodge. He was a practical man with experience of the sea and its challenges. He reviewed the problems and gave special attention to the latest in underwater apparatus available from the renowned firm of Augustus Siebe of Denmark Street, London. After a series of meetings and discussions with the company, Captain Lodge purchased a complete set of the diving apparatus required and was given a list of experienced divers who could suit his purpose. He engaged two Liverpoolian divers (Liverpoolian is slang for people who come from Liverpool in England) by the names of R. Ridyard and W. Penk. As soon as arrangements could be made, Captain Lodge and his team departed England, bound for the China Seas.

In May 1870, Captain Lodge and his team arrived in Shanghai and, with time against them, started searching for a suitable salvage craft. Within days a small pilot cutter, MAGGIE, was hired for the expedition. Small but heavily built, stable and sturdy, she was not a glamorous choice, but in character with Captain Lodge, she was a practical one. A larger vessel would have required more crew and could not have maneuvered so close in around the reef as Captain Lodge intended.

By various methods of searching, including dragging



light anchors until they fouled, and simply lowering a diver to look, the HAMILLA MITCHELL was located in just two days of searching. No mean feat in itself. It was discovered that the vessel had broken in two, either during or after she sank. The aft section had sloped into deeper water in the region of 160 feet. After a series of strenuous dives, in which Messrs Penk and Ridyard cleared the debris manually in order to reach the bullion room, diver Ridyard was finally able to reach the bullion room and was greeted by an amazing sight. Through a combination of damage, due to the sinking and the worms eating the wood, the cases containing the Silver Dollars had burst open. It was claimed in the press at the time that he likened it to Ali Baba find-

ing the cave of the 40 thieves.

In all, diver Ridyard made the journey to the bullion room four times, recovering in total 40,000 pounds in silver Mexican Dollars. After his last dive, he was particularly tired. His friend, diver Penk, volunteered to land on the island and collect Ridyard some cold fresh spring water, rather than give him the ship's water supply which had been in barrels for some time. After the success of the day, Captain Lodge called a halt to the salvage operation and rest for the evening and resume early the next day.

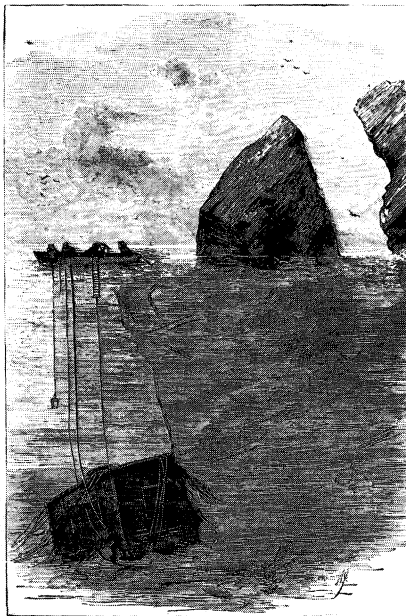
As diver Penk filled his barrel of fresh water he noticed in the distance an apparent armada of white sails appearing to be on course for the island. "Strange," he thought, "Haven't seen a single boat all week and here comes half of China." On his return he reported his observations to Captain Lodge. Captain Lodge thought for a moment then made his way up the island to view for himself what had been reported. As he looked out using his telescope his heart stopped, his mouth dried - those weren't just any, old craft, they were Chinese pirate junks, armed to the teeth and manned by bloodthirsty cutthroats of the worst kind.

Suddenly realising the danger, he ran down the hill shouting to his crew. It was time to depart, and in double quick time, knowing that the captain was no man to act unduly, they made ready the sails and prepared to slip the anchor. As soon as Captain Lodge set foot on the MAGGIE the anchor cable was slipped. There was no time to haul it in, it was time to go, but luck was not with them. The light winds did not fill their sails and all the crew were required to pull on the oars, including the fatigued diver Ridyard. He was quoted again by the press at the time, with the comment, "Amazing how quick you get your breath back when pirates shoot at

you.”

For a time things looked bleak. Shots flew overhead and cannon shot splashed wide. The Chinese pirates were nobody’s fools. They would not risk a direct cannon shot sending the MAGGIE and her cargo to the depths. Still, with no wind to aid them and the pirates gaining slowly, things looked very bleak for Lodge and his divers. Yet with superhuman effort the determined crew of the MAGGIE pulled hard on their oars as if their very lives depended on it - which they very much did. When things looked to be at their worst, as the sun was setting, a breeze sprang up filling the sails and the MAGGIE showed her prowess as a sailing vessel and steadily won back her ground. League by league she regained her lead and as darkness fell Captain Lodge, keeping a cool head, started a series of course changes to lose the pirates under cover of darkness.

Captain Lodge and his gallant but exhausted crew arrived in Shanghai in the early hours of the morning. Some of the papers claimed that the authorities should have given them more protection. The authorities counter-claimed they should have been informed of the day the treasure was to have been recovered, so that they could have provided the protection



ages and around the globe, May 1871 saw the return of the team with the trusted Maggie to the HAMILLA MITCHELL on the Leuconna Reef, to finish the job. And finish they did. Diver Ridyard did not leave one single silver Mexican Dollar behind, in the bullion room.

*Reprinted Courtesy of Dave Moran, Dive New Zealand.*

when needed.

However, with 40,000 pounds recovered, both Captain Lodge and his divers decided they had had enough adventure for one year and decided to depart to England. They arrived back home in August 1870.

But what of the 10,000 pounds in silver Mexican dollars left behind. By now worth far more than that! Is it not worth sending an expedition to recover it? Ah well, dear reader, you are correct - it would probably be worth 100,000 pounds by now. But you see the story of Captain Lodge, divers Ridyard and Penk and the HAMILLA MITCHELL did not end with their return in August 1870.

Back then 10,000 pounds was still a fair fortune, and so with the spirit of true salvors and divers throughout the

**Proud Sponsor of  
Historical Diver  
Magazine**

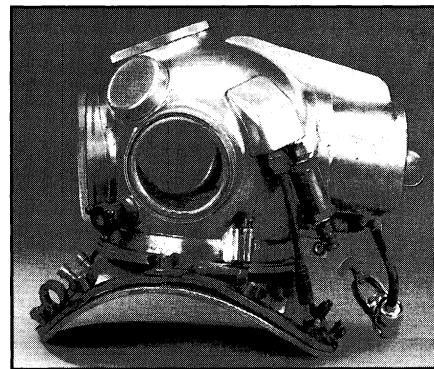
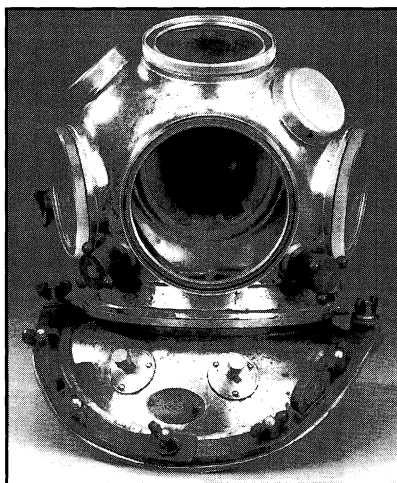
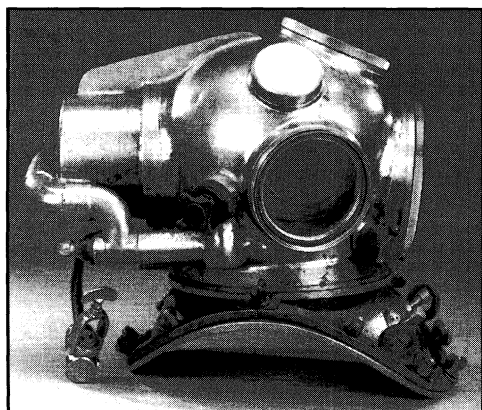
# ScubaLux

[sales@scubalux.com](mailto:sales@scubalux.com)

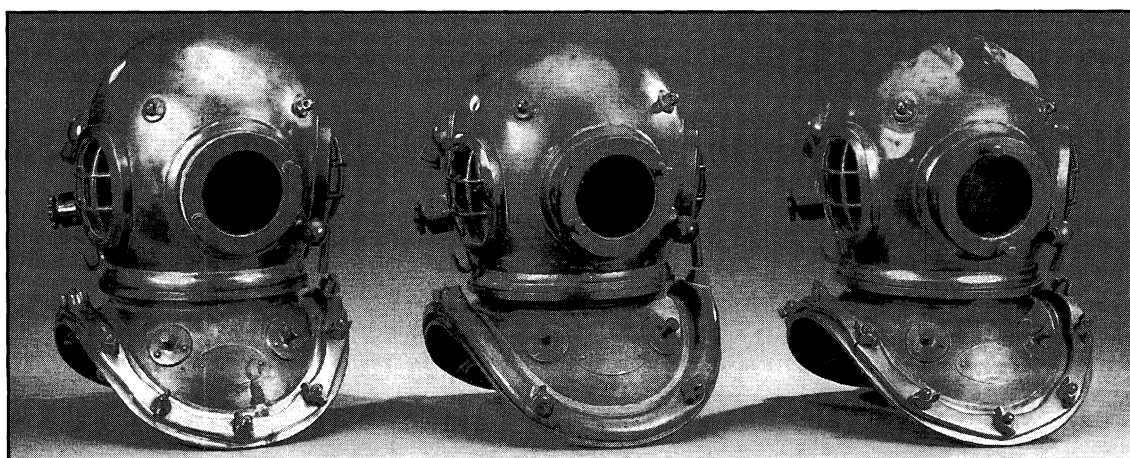
*Exchange rates calculated at £1=US\$1.45. The realized price includes 17.5% buyers premium. Items are indicated by catalog lot number. For complete lot descriptions please consult the auction house catalog. All photos Courtesy of Christie's, © 2001.*

Christie's is known for offering some very old historical diving items but the top lot at this May sale was a very clean Yokohama recirculator from the latter part of the twentieth century. This style of helmet was the direct descendent from Bob Kirby's helium recirculators, (See HDM 20, Bob Kirby and the Helium Recirculator, by Bob Kirby and Leslie Leaney) and was the last design from Yokohama. It incorporated the double inlet block on the port side, and had what some historian/collectors call the "inverted onion" style bonnet. The helmet appeared to be extremely clean with only minor pitting in the nickel and very clear ports. The catalog description was not totally accurate, but the helmet made almost \$7,000, which is exactly what a similar one recently sold for. Siebe Gorman again dominated the domestic items, with nothing from Heinke available.

The wreck of the Royal George is acknowledged as providing a milestone in diving history, and two of the three lots connected to her sailed way past their high estimates, with an 1840 copy of "A Narrative..." fetching almost \$600.

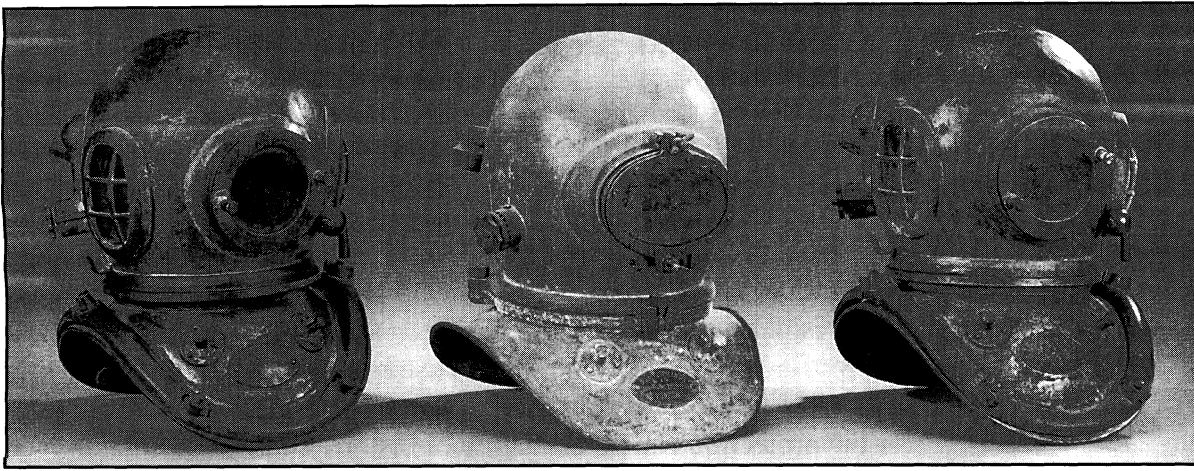


162. Yokohama Helium recirculator helmet, numbered M7289. Helmet retains most of original nickel plating and appeared to be complete. Estimated \$1,800-\$2,200. Sold \$6,815

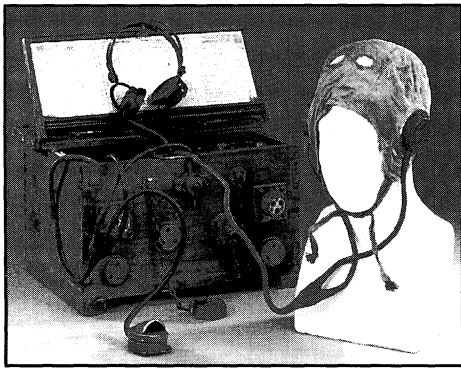


163. Mid-20 th century Siebe Gorman & Co. Ltd. 12 bolt helmet. Matched 19331. Estimated \$2,000-\$2,500. Sold \$5,111
164. Siebe Gorman & Co. Ltd. 6 bolt admiralty pattern diving helmet. Matched 11642. Estimated \$2,200-\$2,600. Sold \$3,408
165. Mid-20 th century Siebe Gorman & Co. Ltd. 12 bolt helmet. Matched 15052. Estimated \$2,600-\$3,600. Sold \$4,089

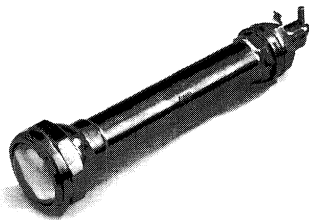




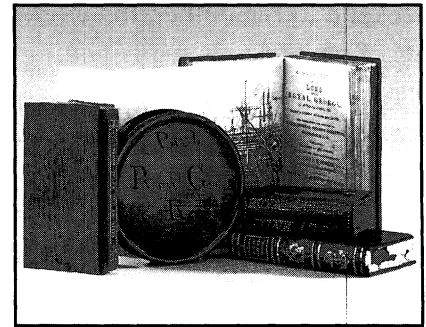
166. Mid-20 th century Siebe Gorman & Co. Ltd. 6 bolt admiralty pattern helmet with tinning. Matched 14381, face plate 14388.  
Estimated \$2,600-\$3,200. Sold \$3,067
167. Mid-20 th century Siebe Gorman & Co. Ltd. lightweight 3 bolt harbor helmet with tinning. Unnumbered.  
Estimate \$1,500-\$2,200. Sold \$3,748
168. Mid-20 th century Siebe Gorman & Co. Ltd. admiralty pattern 6 bolt helmet with tinning. Matched 14666.  
Estimate \$2,200-\$2,600. Sold \$3,067



169. A model 133 two man teak tele-  
phone by Siebe Gorman & Co. Ltd.,  
circa 1920's. Model head not included.  
Estimated. \$730-\$1,000. Sold \$1,277



172. Siebe Gorman & Co. Ltd.  
brass admiralty pattern torch. This  
is one of the earlier models with an  
on/off handle at the rear. Sold \$323



174. A study group of five wooden  
souvenir items from wood recover-  
ed from the Royal George. Two  
wood-bound books detailing the  
sinking and demolishing of her, a  
patch box carved in the lid "Part  
Royal George Keel 17," and two  
items of treen.  
Estimate \$440-\$720. Sold \$1,277

176. A Narrative of the loss of the Royal George and an account of Colonel Pasley's operations in 1839 & 1840. Published by 'John Miller, Jun, 1840,' gilt-edged pages with watercolored engravings of Admiral Kempenfelt and the loss of the vessel, bound between wood recovered from the wreck and impressed on the covers E&E. Emanuel, Portsmouth. Sold \$596

173. Submarine bolt gun. Heavily cast in brass with wooden handle and steel bolt and charge cartridge. Inscribed "Cox No. 2 submarine bolt driving gun, temple Co/Co Ltd, Bromley, Kent, England."

Estimate \$580-\$870. Sold \$510

171. Diver's Telephones. Three Siebe Gorman & Co Ltd. two-man Mk 9, and one-man Mk 6, metal case telephones with a DiverCom Mk 17 in wooden case.

Estimate \$440-\$580. Sold \$225

## Classic Diving Equipment Groups

divers have formed groups to restore, operate and preserve the classic equipment of America's rich diving heritage. These groups often contain divers who are members of the HDSUSA. The activities of these groups are not official HDSUSA functions and the HDSUSA is not involved in any of the activities of these groups, a sad situation that the HDSUSA is forced to endure. This column is produced solely for the interest of our readers. Please consult the HDSUSA disclaimer at the front of this issue.



*MOAVRuss in the tank at SBCC*

### MOAV INC

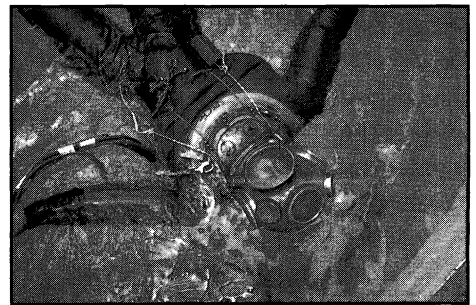
By the time this is published, will have our Non-Profit status as a 501 (c) 3 corporation.

Our president, Russell Potocki, has been selected to serve a four year term as a Marine Steward by The Texas Historical Commission as a Charter Member, The Texas Historical Commission is the state agency responsible for the protection and investigation of historic shipwrecks in the waters of Texas, this will allow MOAV to operate in a semi-autonomous function to investigate historical shipwreck sites throughout the state of Texas.

Three MOAV members, MOAVRuss,

MOAVDickie and MOAVBilly, traveled to "chilly" Santa Barbara to participate in the 3 day Heavy Gear Workshop put on by the Santa Barbara City College. MOAVDickie brought along his "Lowe Hat" for "bring and brag" and received many compliments on the workmanship by both instructors and students. It truly was a weekend to remember, the workshop was outstanding and we made lots of new friends while getting the chance to visit with some old ones.

In June MOAVDickie accepted the challenge of Leslie Leaney to be the National Rally coordinator for next year.



*MOAVBilly demonstrates the backstroke*



## DESCO CORPORATION

a proud sponsor of the

Historical Diving Society

has been building quality diving helmets since 1937. We continue to produce a full line of helmets including the U.S. Navy Mark V, 3 and 4 Light Commercial, Sponge, Abalone, Agar, Shallow Water, and our newest addition the Browne Commercial helmet. DESCO builds all of our helmets to the original specifications, with the same materials, and in some cases the same tooling.

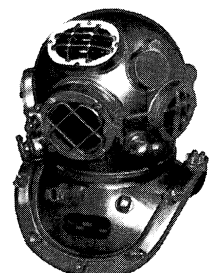
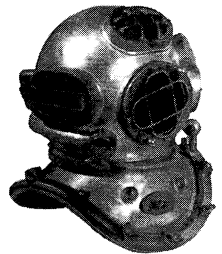
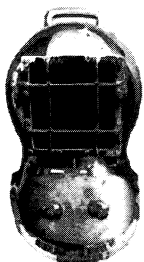
DESCO also sells related equipment such as, shoes, weightbelts, valves & fittings, tools, and the U.S. Navy Divers Knife. We also sell novelty items and apparel with a diving theme.

For more information:

**DESCO Corporation**  
240 N. Milwaukee Street  
Milwaukee, Wisconsin 53202

Phone 414-272-2371  
Fax 414-272-2373  
diveq@execpc.com

[www.divedesco.com](http://www.divedesco.com)  
[www.descocorp.homestead.com](http://www.descocorp.homestead.com)  
[www.descohistory.homestead.com](http://www.descohistory.homestead.com)



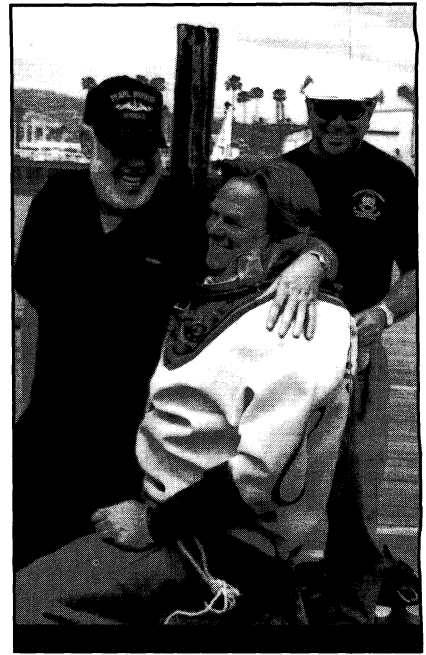
## CALIFORNIA CLASSIC EQUIPMENT DIVERS.

Our dive at the Banning's landing on June 3, 2001, netted us something beside the usual sunburns, aching backs and sore leg muscles. Finding "treasure" in the form of an assortment of old bottles and junk that has been thrown into the harbor for the past 60 years or more, added to a great day of diving at the opening day Celebration for the new Cultural Center in Wilmington. Banning's Landing is probably one of the most historically significant spots in the Los Angeles Harbor dating back to 1857 when Phineas Banning and his partners began the construction which lead to the development of the Port of Los Angeles as we know it today.

The new dock and ramp made an excellent dive platform into about 35 feet of water with fairly good visibility. Helmets used were Charlie Orr's TOA and Rick Ericksen's Yokohama. Several members brought along their own scuba gear and joined the heavy gear divers in the water. Seventeen members took part in the day long event. A large display of helmets, diver's knives and flashlights, along with pictures of some of the early divers in the Los Angeles Harbor taken from Torrance Parker's book, *20,000 Jobs under the Sea*, drew a large audience of those who had stopped by to check out the new facility and enjoy the entertainment.

The L.A. fireboat docked late in the afternoon offering tours and putting on a marvelous demonstration of their water pumping capabilities as they sprayed water simultaneously from all hoses.

We would like to give a big "Thank You" to the Friends of Banning's Landing, L.A. dept. of Cultural Affairs and the Port of Los Angeles for giving us the opportunity to take part in the celebration.



**THE TREASURE COAST WEG** has its next rally scheduled for October 13 & 14 at Key Largo Undersea Park, home of the famous Jules' Undersea Lodge, the world's first and only underwater hotel. While diving in the Emerald Lagoon you can visit a Spanish Galleon Era Wreck Site (re-creation), Jules' Undersea Lodge, and the underwater Marine Lab, all of which offer great underwater photo opportunities. Key Largo Undersea Park is located at 51 Shoreland Drive Key Largo, Fl 33037 Phone # (305) 451-2353, web site: <http://www.jul.com>. The Treasure Coast WEG has many impromptu dives and if you would like to get involved please contact us.

*Alan Rothman diving his cast iron shallow water helmet.*

## THE UNDERSEA HERITAGE & EXPLORATION SOCIETY

The Undersea Heritage & Exploration Society (UHEXSO), Austin, Texas. Serving the Gulf Coast regions historical and volunteer diving support needs since 1998.

Please visit our web site at: [www.uhexso.org](http://www.uhexso.org) to find out more about this unique group. Legendary Gear, Extraordinary Divers--Go UHEXSO.







**NEW ENGLAND UNDERWATER WORKING EQUIPMENT GROUP.** After several years of dreaming, everything has come together and we have been launched. On April 22, 2001, we opened a commercial diving equipment display in the Gloucester Maritime Heritage Center, which now owns the harbor Loop Division of Gloucester Maritime Railways. Our location faces the oldest working marine railway in the USA, which borders the dock area where much of the movie "The Perfect Storm" was filmed. We display five sets of free-flow hard hat gear, eight sets of regulated masks and hats, and six sets of scuba gear dating from 1955 to the present. we are encouraged by the enthusiasm we experience even with chill winds coming off the water in the afternoon. "Word-of-mouth" advertising is paying off and we have superb support from Ken Downey at Morse Diving and also from the Heritage Centre. We are now preparing a steel stairway at docks end to allow us to put on public

demonstrations of diving equipment. The future looks bright as we have become a permanent fixture on the waterfront in Gloucester. - Paul Harling

**For details of regional rallies, meetings, etc. contact the following groups:**

**The Undersea Heritage & Exploration Society.** A Non-Profit Corporation. John F. Hoover, Executive Director. Phone 512-288-7067 <http://www.uhexso.org>

**New Jersey. Northeast Diving Equipment Group.** Jim Boyd, organizer. Phone 973-948-5618, [www.geocities.com/jboyddiver](http://www.geocities.com/jboyddiver)

**Midwest Diving Equipment Group.** Contact Gregg Platt at 847-854-7154

**Colorado Working Equipment Group.** Contact Ross Boxlitner, [RBOXL@aol.com](mailto:RBOXL@aol.com)

**Chicago. Midwest Working Equipment Group.** Gregg Platt, organizer. Phone 874-854-7154

**California Classic Equipment Divers.** Charlie Orr, organizer. Phone 310-834-7051 [www.geocities.com/cced\\_barstad](http://www.geocities.com/cced_barstad)

**Florida's Treasure Coast.** John Gallagan 954-989-1377, or Marc Cohen 954-565-9754 [www.hybdiving.com](http://www.hybdiving.com)

**California Central Coast Working Equipment Group.** Scrap Lundy, organizer. Phone 805-963-4151

**MOAV South East Texas.** Bill Gronvold 281-861-6478 or [moavbilly@moav.net](mailto:moavbilly@moav.net)

**New England Underwater Working Equipment Group.** Paul Harling organizer. 551 Washington Street, Gloucester, MA 19030-1751



**Dive Commercial  
International**

**Your Source for  
Professional Diving Equipment  
and**

**a proud sponsor of**

**HISTORICAL DIVER**

**3400 16th Ave West**

**Seattle, WA 98109**

**206.784.5050**

**[dcj@wolfenet.com](mailto:dcj@wolfenet.com)**

**[www.divecommercial.com](http://www.divecommercial.com)**



## THE E.R. CROSS FILES

Diving History from the Files of E.R. Cross.

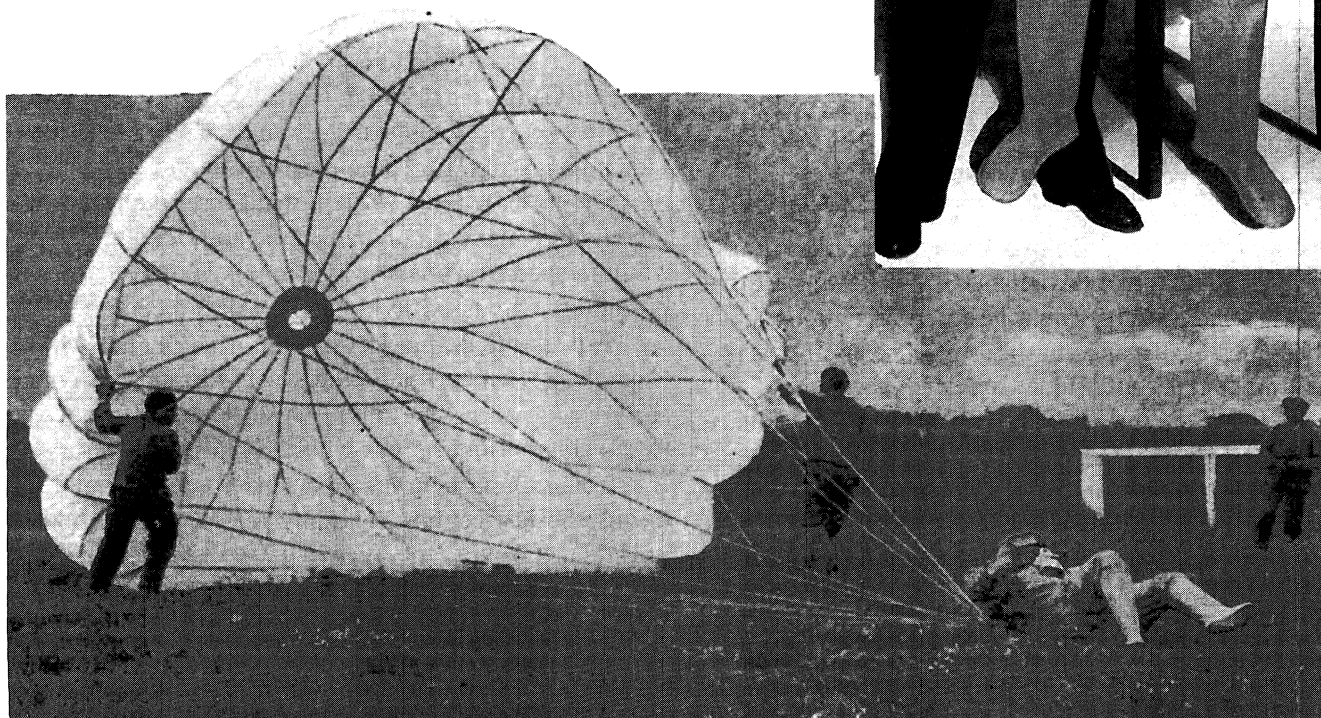
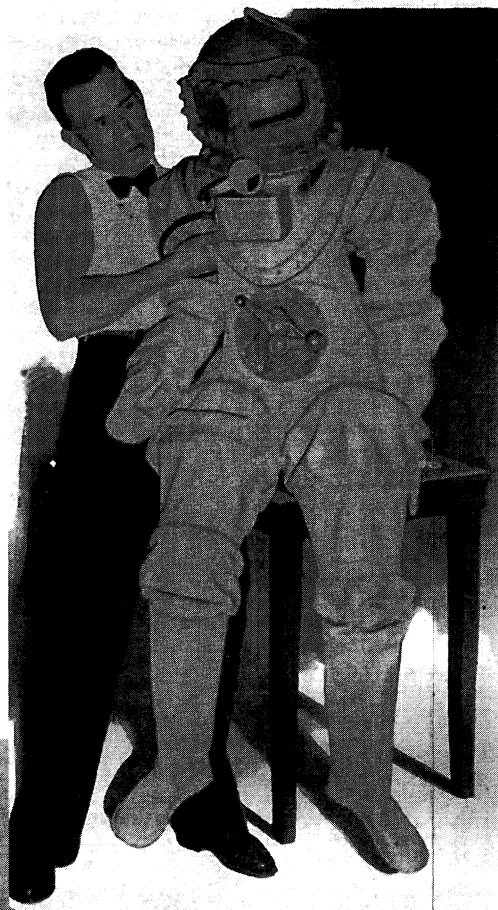
The diving/flying suit featured in E.R.'s column last issue brought some positive comments, so we are following it with another related item from the same era.

### Popular Science Monthly

March 1939

### Parachute Jumper Wears Aerial "Diving" Suit

Parachute jumps from the stratosphere are made possible by a novel aerial "diving" suit recently given preliminary tests at Le Bourget air field at Paris. Made of a special re-inforced rubber, this French innovation is equipped with a lightweight metal helmet, and provides space for two oxygen cylinders to supply the vital gas to the parachutist as he plunges earthward through the rarefied air found at high altitudes. A lever on the helmet opens a porthole, so that the jumper can breathe the oxygen-charged air within the cabin of the plane as it climbs into the stratosphere. Just before leaping from the plane, the parachutist closes the helmet port, and turns on his oxygen supply, which he continues to use until he is close enough to the earth to open the helmet and breathe the outside air. The only precaution that must be taken, it is said, is to make sure that there is plenty of room for the jumper to get out of the plane, as the rubber suit balloons out when the air that is contained in it is expanded in the thin atmosphere of the upper air, making it difficult for the parachutist to get through the door of the plane's cabin.



The end of a trial leap. Levers on the front of the suit, visible in the upper photo, control the oxygen supply.



**Neutral Buoyancy;**  
Adventures in a Liquid World,  
by Tim Ecott

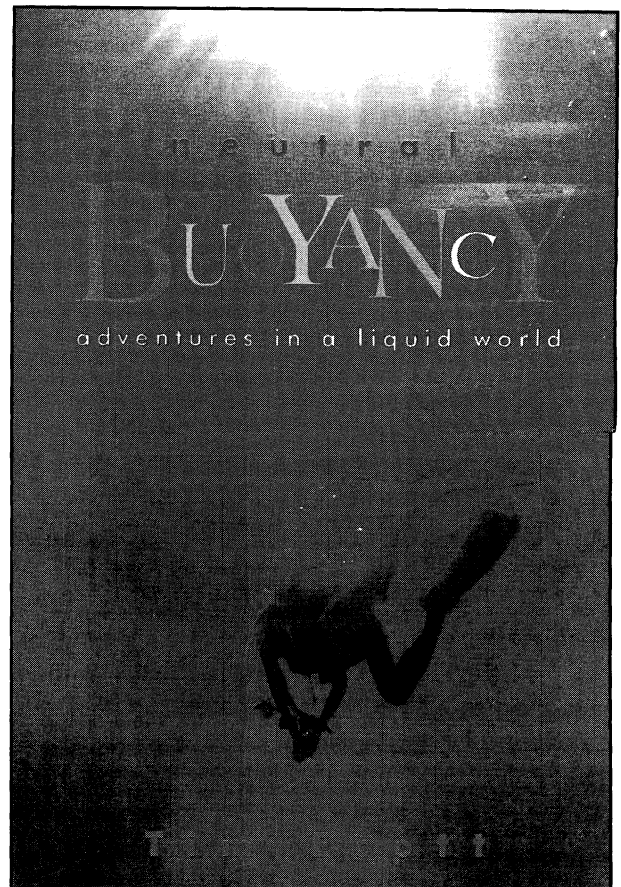
Reviewed by Leslie Leaney

The subject of diving history can sometimes be pretty mundane, and researching it is often frustrating. I know this to be true from what turns up on my desk. I spend countless hundreds of hours each year reviewing handwritten notes, sometimes presented with the most spectacular stretching of the English/American language imaginable. This reviewing process is normally followed by excavations into bulging files of newspaper clippings, boxes of partial and complete magazines, and shelves of old books, seeking information on a particular diving topic, sometimes with little reward. Once in a while, something turns up on my desk that brightens the whole day. But when Tim Ecott's *Neutral Buoyancy* arrived it brightened up my whole week and is definitely a reward that is worth sharing.

The author is an HDS member and a veteran reporter and producer for the BBC World Service. His journalistic background has served him well in producing this brilliantly written and highly readable accounting of diving history, interwoven with his personal diving experiences in some of the world's more exotic locations. Tim Ecott leads us away from the well trodden path of chronological diving history on a journey back to the past, directed in part, by the compass of his own diving adventures.

Tim's entry into the world of diving began shortly after his mother died, and he set out on "a journey away from bereavement." This journey took him to various desirable diving locations, and he shares his experiences above and below in Fiji, the Bahamas, the Caymans, Desroches Island, and includes a nightmare dive in the English Channel, for a little balance. He is now a certified dive master and passionate marine environmentalist, a fact that becomes easily apparent through his vivid descriptions of the undersea world.

In researching the book, Tim solicited the assistance of several HDS members and was able to get face to face interviews with several influential divers. A visit to Vienna with Hans and Lotte Hass allows them to reflect on their adventurous careers and provides an accurate insight into their role in the evolution of diving. The subject of Jacques Cousteau's shadow over Hans' pioneering work is brought up, and dealt with by Hans in his usual gentlemanly fashion. Back nearer American waters Neil Watson recalls his 1968 deep air dive to 437 feet with John Gruener, and we pull up a chair across the desk from Tarpon Springs sponge dealer George Billiris to hear his stories of that special-



ized immigrant trade. Florida also provides us with an audience with SEALAB's legendary diver Bob Barth, as his extra dry humor adds to the unique diving ambiance. Tim experiences around Panama City and the NEDU. Further down in the Florida Keys Lance Rennka preaches his sermon on diving from Jules' Undersea Lodge, where the author gets to spend a night in an underseas habitat. Over in California, HDS favorite Dottie Frazier recalls her early sport-diving years, diving as a single mother to feed a young family. These meetings and their surroundings are presented in a very intimate way and it is easy to feel that you have accompanied the author on his visits.

Interspersed with these meetings is Tim's research into prominent events in diving history. From centuries past we read about Phips, Lethbridge, the Deanes, Siebe, Macintosh, Lambert and others who illuminate diving's early years, while sport diving historians will be pleased to re-acquaint themselves with the likes of Gilpatric, Le Prieur, Hass, Cousteau and others that came to prominence during the last century. The physiological contributions of Haldane, Boyle, Robert Hooke, George Bond, and Paul Bert are recorded in a very straight forward way, making them easy to understand for even non-divers. Combat diving gets good coverage with the Italians and British charioteers, and is highlighted by a charming interview with Lieutenant "Dickie" Greenland, who at 86 years old is one of the last veterans of these missions who is still alive. Free-diving is represented by a visit to Sardinia where the

author enters the water to witness Umberto Pelizzari and companions during their training sessions. In fact, the early work in almost every field of diving is covered in the book including photography and film-making.

One of my favorite sections is entitled Healing Waters, where divers from different countries record why they go diving. It does not have anything to do with diving history as we know it, but purely the reasons why we divers do what we do.

By staying away from the traditional style of diving history book, Tim Ecott has written a title that I feel certain will appeal to most divers and sea lovers. It is a book that would be at home in any diving library and I would expect it to become a mainstay on the book shelf of many live-a-boards. As a \$26 hardbound, it is certainly a great value. Neutral Buoyancy is well researched and written in such an appealing style that it will hopefully encourage more divers to not only respect and preserve our fragile oceans, but appreciate the efforts of the men who provided us with the means to safely access them.

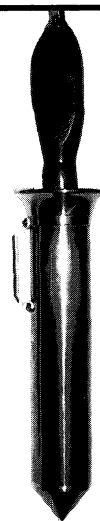
**AVAILABLE FROM THE HDSUSA,**  
*order form on page 59.*

*Hardcover, 346 pages, illustrated \$26.00 plus \$4 domestic. Contact the office for overseas shipping rates. Ca res. add 7.5% sales tax.*

## **EDWARDS AND SON**

**LIMITED EDITION  
COMMEMORATIVE  
SPONGE DIVER'S KNIFE**

**QUANTITY LIMITED TO 50 KNIVES  
INDIVIDUALLY NUMBERED  
BEAUTIFULLY HANDCRAFTED**



**AUTHENTIC DESIGN  
ENGRAVED STAINLESS STEEL BLADE  
COPPER AND BRASS CASE  
MAHOGANY HANDLE**



**\$329 PLUS \$10 SHIPPING IN USA  
CHECKS TO: B. EDWARDS  
292 WOODCREST COURT  
MANCHESTER, NH 03109, USA  
603-668-0863/sooznh96@aol.com**

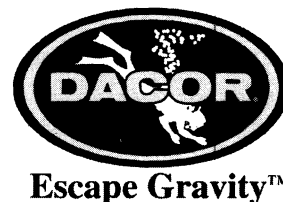
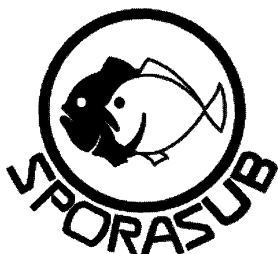
<http://sites.netscape.net/edwardsandson/homepage>

# **mares®**

## **Mares America Corp.**

Shore Pointe, One Selleck St.  
Norwalk, CT 06855  
Tel (203) 855-0631  
Fax (203) 866-9573

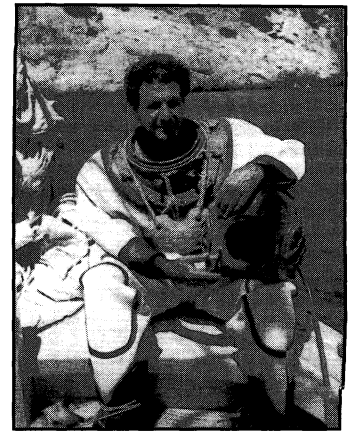
Email: Tech@maresscuba.com  
Sporasub@maresscuba.com  
Dacorsls@divedacor.com



## Bitter Sea: The Real Story of Sponge Diving,

by Faith Warn

Reviewed by Torrance Parker



In her book *Bitter Sea*, Faith Warn tells the story of this Mediterranean history of sponge production from the time of Homer to the present time. Early sponge fishers were naked divers, and for millennia, Greek sponge divers used a flat marble stone as a weight/rudder to rapidly carry and help steer them into the depths surrounding the Dodecanese Islands. Shaped like a bell and weighing 33 pounds, the stone had a hole in one end for attachment of a line tended by the crew above. After landing on bottom, the naked diver tucked the heavy stone to his side and walked the sea bed - sometimes over 15 fathoms deep. If lucky, he might place one or two sponges in the net sack tied to his waist before jerking the line to be pulled back to air. Sponges were also harvested by hooking with long poles and dredging. By the mid 1800s, shallow-sponge beds in Aegean waters had nearly become exterminated, and even the deeper beds severely depleted. Forced to explore farther afield in small open boats, adventurous divers of the Dodecanese islands discovered new sponge grounds off the coast of North Africa.

In 1863, the industrial revolution reached the island of Symi with the introduction of the compressed air diving suit. Unfortunately, the development of stage decompression was still 34 years away. But with the new suit, a diver could descend and remain at depths previously unobtainable. Shortly thereafter, in 1865, the divers of Kalymnos were also using what had become known as "Satan's machine" on their seasonal voyages to the coast of North Africa. Their trips would start the week after Easter and last until October. A helmet diver could earn two-and-a-half times in those six months what he could ashore. Since they might never return, and to keep their family while away at sea, divers negotiated with a captain their six-months wages before signing on. The better the diver's reputation, the higher the cash prepayment paid him ahead of the fleets sailing. This system of prepayment, called *platika*, created great pressure for the diver to work deep and stay down long. Captains were put under great strain too. Having borrowed money at high interest rates for trip expenses and cash advances to crew, they became hard taskmasters, demanding maximum production from the divers.

Tragically, the diver's paid a high price for their deep diving exploits with the then unknown effects of nitrogen narcosis, carbon dioxide buildup, and what eventually became known as the bends. When the sponge fleet returned to Kalymnos at the end of a trip, the boats routinely brought back less than half the divers who had left. The rest remained in their foreign or watery graves. Between 1865 and 1895, 800 divers from Kalymnos were killed, and according to the author, "between 1886 and 1910, there were a staggering 10,000 deaths and 20,000 cases of paralysis among sponge divers in the Aegean - and the majority of victims were Kalymnians."

My review has focused on diving, but Faith Warn's book is much more than a history of sponge diving. It is also a story of a small Greek island, its people, their culture, customs, folklore, and proud tradition. I assure you, after reading *Bitter Sea*, you will want to visit Kalymnos. The author has lived on the island of Kalymnos for over a half decade. Her attachment and respect for its Greek inhabitants are beautifully described in her poetic descriptions of the Kalymnian's passion for life, and their perseverance to survive under formidable circumstances.

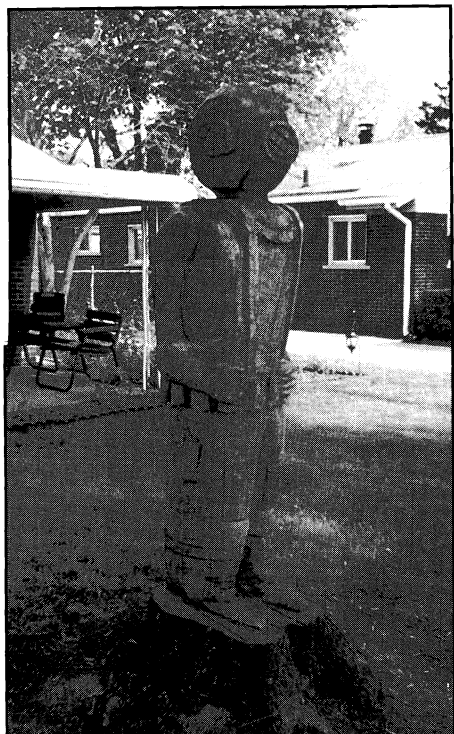
Faith's presentation would benefit with illustrations showing the various types of commercial sponge, both before and after cleaning. Also, a photo of the early diving boats; both sail and motor driven, Greek diving gear (a diver with Japanese helmet is shown), their traditional methods of rigging, and techniques of working bottom are all lacking. Furthermore, there are a few inaccuracies on the subject of bends and the diving suit, but my remarks are in the way of commentary more than criticism. Without doubt, the book has a great deal of useful and historical material concerning the Greek sponge diving fishery. Anyone interested in diving and seafaring will find it of value, and an important addition to their library.

**AVAILABLE FROM THE HDSUSA, order form on page 59, Paper Bound \$14 plus \$4 domestic p&p. Contact the office for overseas shipping rates. CA. res. add 7.5% sales tax.)**

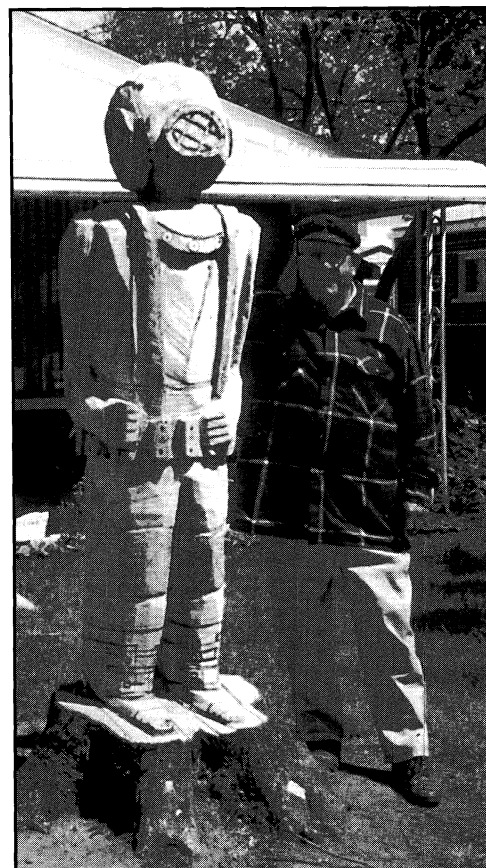


## Wooden Diver Dan

by James Cosgro



My local chain saw artist took two days to rough out "Diver Dan," and it took me a further two and a half weeks part-time playing with a wood burning tool to etch out the details. He is rigged as a construction diver with a size 2 Morse dress and Morse helmet serial # 4890. The chaffing pants are Levi's size 76" x 42" and I made pockets for his tools, nuts and bolts, etc. The boots are USN issue. The original use was a 40 year old silver maple tree - now converted. My first dive was in Philly, PA in 1949 and I am still involved with Commercial Diving and Marine Service of Port Huron, Michigan.



# SCUBA TECHNOLOGIES INC.

*Manufacturers of world class  
Underwater Breathing Apparatus*

is a proud sponsor of  
this issue of  
Historical Diver Magazine

922 Hurricane Shoals Road  
Lawrenceville, GA 30043  
(707) 962-2552  
(888) ISI-SAFE  
FAX (707) 963-2797

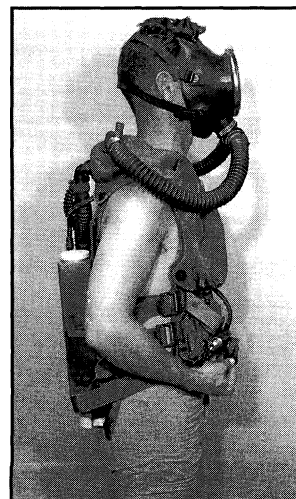
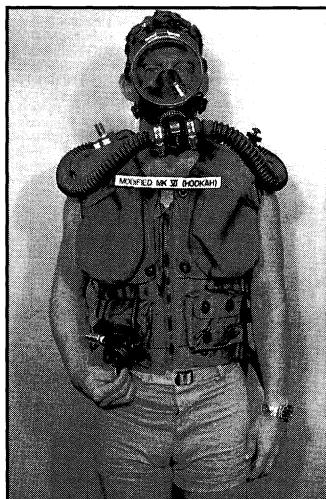
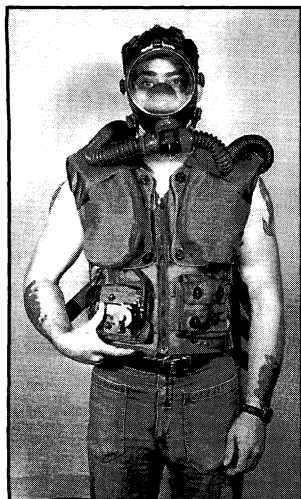


# Ye Olde Master Diver's Locker

Being a visual accounting of some of the weird and wonderful diving gear evaluated by the U.S. Navy



## Modified Mk - 6 UBA



Earlier this year I was invited by Leslie to resurrect this column and I hope to be able to present various unusual dive rigs from the past, that passed through the Navy Experimental Diving Unit.

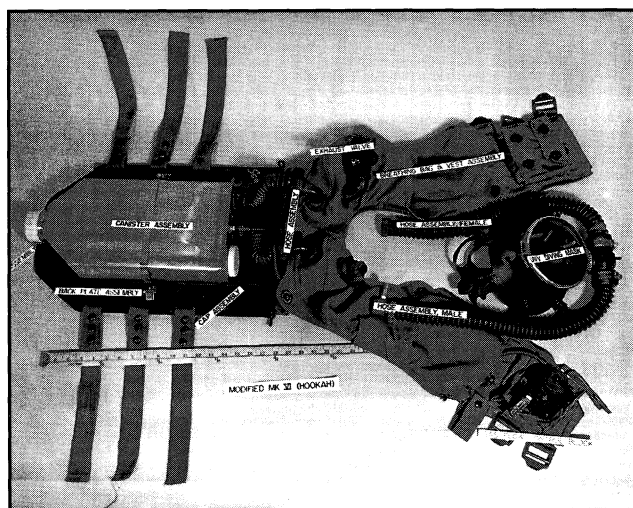
Here is an interesting rig. It is from the early to mid 1960's and is a Mk - 6 UBA modified prototype built by Scott Aviation. It includes numerous modifications from the standard Mk - 6 UBA Semi Closed Circuit Rebreather. Apparently, it was intended to be used as a surface supplied hookah rig, but I am not sure if cylinders were fitted to the back plate as there is no mounting hardware for them. It also has a completely new CO<sub>2</sub> absorbent canister, possibly for longer duration. (the original MK - 6 canister was round). A Scott full face mask was fitted to the rig as well.

In fact, the only thing Mk - 6 about it is the over-the-shoulder counterlungs, gas control valve and maybe the back plate. It is a very interesting rig, and I intend to present more rigs like this in future issues of Historical Diver.

If any of you have any further information on this rig please let me know, so that we can publicize it in a future issue.

I can be reached at [ltrobin@divenet.com](mailto:ltrobin@divenet.com) or through the HDS.

L.Tracy Robinette





## Glen D. (Tonga) Stainbrook 1912 - 2001

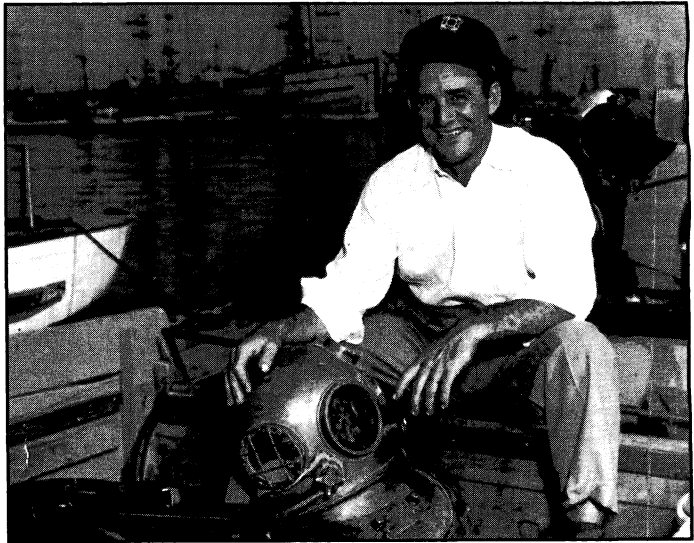
We sadly announce the passing of a long time Navy and commercial diver, Tonga Stainbrook.

Tonga was born to American parents living in South Africa on a cattle ranch. At the age of 13 he ran away to sea, stowing away on a freighter headed for the South Seas. He soon found a job tending pearl divers and eventually became one himself. He followed this trade until the start of WWII when he enlisted in the U.S. Navy. On completion of dive school he served primarily in the Pacific as a diver. During this time he also did salvage work at Pearl Harbor.

After his discharge in 1945 as a Master Diver, Tonga started his own company, S & S Diving and Salvage in Long Beach, California. He also worked as an abalone diver off the southern California coast, from his two boats, the NAUGHTY LASS and BOBBY J. He became an instructor for E.R. Cross at the Sparling School of Diving at Wilmington, California, and for several years he was retained by Lloyds of London and NASA.

He is survived by his wife Gee Gee, two sons Jerry and Paul, and one daughter, Joanne. He was a member of the VFW and the American Legion. Tonga was buried at sea by his family and friends.

Jocko Robinson and Bill Wilson



## Col. William R. "Randy" Furr

On May 17, 2001, UHEXSO Co-Founder and Trustee, Col. William R. "Randy" Furr passed away at his home in Pflugerville, Texas, surrounded by his family and special friends. Col. Randy concluded an illustrious career of 33 years in the Texas Army National Guard at Camp Mabry, Austin, Texas. Throughout his military career he served as a beacon of honor, strength and integrity for the United States, the State of Texas, family and friends. His military honors include the Legion of Merit, Meritorious Service Medal, Lone Star Distinguished Service Medal and Master Parachute Badge as well as numerous other citations and awards. Col. Randy is survived by his mother and father, Mr. and Mrs. Fritz

Renfro, his children and their spouses, Sharon, Reece, Zane and Suzanne. Col. Furr also leaves behind several sisters and twelve grandchildren.

Col. Randy was an avid diver with a keen interest in the history of diving and in marine archeological projects. He was instrumental in the location of "Point Bud," a very promising site in the search of the Republic of Texas Flagship INVINCIBLE, which sank off Galveston in 1837. He was a key member of UHEXSO and his guidance and leadership will be missed. He left a void in those of us who knew him well. We were privileged to have him as a friend and dive companion.

John Hoover

**CLASSIFIED**

Classified Rates: **MEMBERS:** .35 cents per word, \$2.50 minimum. **NONMEMBERS:** \$35.00 per column inch, minimum \$35.00 Payment must be made with order. Advertising copy should be sent to: HD Classified, 2022 Cliff Dr #405, Santa Barbara, CA 93109-1506 **Deadline for Advertisements in the next issue is August 1, 2001.**

**ORIGINAL MOVIE POSTER** collection for sale. Whole or individual items entire theme is ocean adventure/scuba/sci-fi John Brill 303-979-0655

**CLASSIC HELMET DIVING CLASSES.** Weekend classes. For starting dates call 650-520-7685 Capt. Ace Parnell.

**KOREAN HELMETS,** Pre World War II. Three light, 12-bolt, with manufacturer's plates. Photos, prices, descriptions on request. Jim Shuttleworth, e-mail: jinipinxit@aol.com, PO BOX 93575, Industry, CA 91715-3575, (909) 595-6655.

**OLDBALONE BOXES** "Brebes" Circa 1960's Great Diving Collectible \$5 Ea. + Postage. Email for Pics. gmd1@charter.net or (805) 461-3500

#### **DIVING HELMETS and Suits Plus More!**

Chinese 12 bolt copper or tin plate \$950, Chinese 3 bolt and 12 bolt canvas suits (large) \$200. Brass Divers Knives \$150. Much More nautical stuff in brass! ALL Authentic. \*Will Ship\* Call Geo @ (805) 461-3500 E-mail for Pictures gmd1@charter.net.

**OFFERED:** some genuine pre and post war Russian diving manuals, and some interesting school instruction posters showing hard hat divers and equipment. Complete used and new 3 and 12 bolt equipments. Suits, boots, weights, knives, spares etc. Also some new rebreathers; boxed with tools and spares. Call David 0031229202043 or fax 0031229202143. E-mail: davidsimport@zonnet.nl

**WANTED:** small A.Siebe pump wheel; can exchange for large A.Siebe pump wheel or set of early Siebe Gorman & Co wheels. Call David 0031229202043 or fax 0031229202143. E-mail: davidsimport@zonnet.nl

**AVAILABLE;** vintage U.S. Divers double hose pads including original first stage hp seats, diaphragms, seals, and more Good supply of straight and curved mouthpieces, and, intake / exhaust valve fit U.S. Divers style. Hoses in color black available and looking for interested persons who want yellow hoses & mouthpieces Good supply of original design U.S. Divers body spanner wrench #1112-00. Late 60's wetsuits, fins, accessories new in box, and more. See www.goingunder.net follow to page -Vintage Equipment or call Ron at 763-424-8717.

**FOR SALE.** Yokohama No. 2 dress, punched for Yokohama/TOA. Like new \$1000. 200 foot 3/8" hose with 4 wire comms \$250. 100 foot 3/8" hose with 4 wire comms \$125. All FOB California. Leslie 805-899-3200.



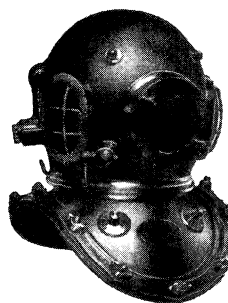
**Best Publishing Company**  
*a complete line of books for the diver*

**With over 250 publications on just diving here is just a sample of the many categories we have available**

- Underwater Photography
- Underwater Inspection
- Underwater Welding
- Salvage Techniques
- Diving Physiology
- Mixed Gas Diving
- Diving Medicine
- Decompression
- Nitrox Diving
- Diving Safety

For more information on these or other Best books, call for a free catalog

1 (800) 468-1055



## **Harbour Supplies**

Constantly changing inventory of original helmets, Siebe 6 and 12 bolts, USN, Russian, Korean, Chinese, some very old hats.

Rapidly diminishing stock of pumps, mostly Siebe, 1850? Tyler.

Also suits, boots, knives, radios, spares, etc. Good stock of twin hose regulators for trade 8x Heinke Mk 5, 6 x Heinke Mk 3.

**Fax or Phone for complete list**

Adam

Taunton House, Taunton Road  
Swanage, Dorset BH19 2BY England  
Phone/Fax 011-44-1929-4285032  
Phone 011-44-1929-425440

# Historical Diving Society USA Membership Application

## Annual Membership Information

SPONSOR NAME (PLEASE PRINT):

SPONSOR'S MEMBER NUMBER:

### Class of Membership:

- ☐ Founding Benefactor (Lifetime Membership) . \$1000.00  
☐ Corporate ..... \$100.00  
☐ Diving Clubs ..... \$50.00  
☐ Institutional (Colleges and Schools) ..... \$50.00  
☐ Dive Stores ..... \$50.00

- ☐ Family (Domestic USA Only) ..... \$45.00  
☐ Individual (Domestic USA Only) ..... \$35.00  
☐ Student (Domestic USA Only) ..... \$25.00  
☐ Mexico and Canada ..... \$45.00  
☐ Overseas ..... \$50.00

Brief description of your interest in diving. Maximum of 24 words (optional):

I wish my name, address, phone number and above details to be entered in the member register. ☐ Yes ☐ No

Signed: ..... Date: .....

**Please complete for Membership and/or Merchandise — Please Print Clearly or Type**

Name: ..... Member No. ....

Address: .....

City: ..... State: ..... Postal Code: ..... Country .....

Telephone: ..... Fax: ..... e-mail .....

## Order and Payment Information

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DESCRIPTION	QUANTITY	SIZE	COLOR	PRICE EACH	TOTAL

### Method of payment:

☐ Cash ☐ Check (enclosed) ☐ MO

Credit Card: ☐



Card NO: .....

Exp. Date: .....

Name on Card (Please Print) .....

Signature .....

Phone Number in case there are problems .....

Subtotal

CA residents add 7.75% sales tax.

Total shipping (see item description)

Total enclosed

(U.S. FUNDS ONLY, PLEASE)

Please photocopy this form.

MAIL ORDER TO:

**HISTORICAL DIVING SOCIETY ORDERS**

**340 S Kellogg Ave Ste E**

**SANTA BARBARA, CA 93117 U.S.A.**

**OR FAX WITH CREDIT CARD DETAILS TO:**

**805-692-0042**

**Please allow 4 to 6 weeks for delivery.**



**SCUBA**  
**TECHNOLOGIES**  
**INCORPORATED**



**MAR-VEL**  
Underwater Equipment, Inc.

Morse Diving



Since 1837

**ScubaLux**

